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ABSTRACT

This study analyzed the academic and demographic characteristics of 2,939 students admitted to the University of Louisville (Kentucky) Preparatory Division (an academic/enrollment unit for all students initially inadmissible to a degree-granting unit) who achieved eligibility to transfer to a degree-granting unit of the University. It also examined their performance patterns and characteristics in relation to the aggregate Preparatory Division population. The study resulted in the following findings about the students transferring to a degree-granting unit (as compared to the University's undergraduate population): Division transfers were more likely to be female, African American, first-generation college students, employed, and on financial aid; they were a better-performing segment of the Division's aggregate population but not a particular demographic or academic subgroup; first-year academic performance related strongly to students' initial level of academic preparation, but retention and graduation related more strongly to economic factors such as employment status, financial aid, and parents' education; transfer students were prepared when they entered the University from the Division; 291 Division transfer students graduated from the University, earning 309 academic degrees; the Preparatory Division strongly enhanced performance, retention, and graduation rates of white females; white females tended to perform better, while African Americans were more likely to persist. Appendices contain data tables. (Includes 25 references.) (JB)

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May 17, 1991

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Preparatory Division
University of Louisville

May 17, 1991

Table of Contents

Executive Summary 4

I. Introduction: Evolution of the Preparatory Division and Purpose of the Study 7

II. Transfer Policy and Process 11

III. Data Sources, Research Methodology and Report Format 12

IV. Transfer Patterns: 1983 - 1990 14

V. Academic and Demographic Profile 17

VI. Academic Performance Before Transfer 21

VII. Academic Performance After Transfer 25

VIII. Retention Patterns 28

IX. Graduation Patterns 33

X. Comparison to Early Transfer Students 37

XI. Predicting Academic Performance and Retention 40

XII. Discussion and Conclusion 50

References 53

Appendix A: Performance and Retention by Race 56

Appendix B: Performance and Retention by Sex 59

Appendix C: The Impact of the Special Services Program 62

Appendix D: Transfer Patterns of Minimum Admission Students 65

Appendix E: Performance and Retention by Financial Aid/Income Status. . . 68

Appendix F: Performance and Retention by Employment Status 71

Appendix G: Performance and Retention by Parents' Education 74

Appendix H: Early Transfer Students 77

Appendix I: Graduates - Major and Degrees Earned 79

Executive Summary

- From Spring 1983 through Spring 1990, 2,939 students achieved eligibility to transfer from the Preparatory Division to a degree-granting unit (Table I, page 14). This total represents a transfer rate of 61.9 percent, i.e., 61.9 percent of all students admitted to the Division (who subsequently matriculated) during this period eventually transferred (Table II, page 15).

- Compared to the University's undergraduate population, Division transfers were more likely to be female (56.2 percent), African American (26.0 percent), "first generation college students" (65.4 percent), employed (64.2 percent) and on financial aid (59.2 percent). In addition, Division transfer students had an average age of 19.9 years and were likely to be local residents (79.1 percent, Table III, pages 17-18).

- As would be expected, Division transfers were academically underprepared when admitted to the University---with mean high school grade averages of 2.40 and mean ACT Composite scores ("old ACT") of 12.23. Although there was great variability, Division transfer students tested most often into English 099, Mathematics 075 and Reading 099 (Table III, pages 17-18), and registered for a full-time (87.1 percent) course load (Table IV, pages 21-22).

- Transfer students were a better performing segment of the Division's aggregate population, not an identifiable demographic and/or academic sub-group. Transfer students spent an average of 1.81 terms in the Division before transfer (44.5 percent transferred after only one term), earned an average of 8.15 hours in pre-college level courses (18.11 hours overall)---with a mean grade average of 2.56---at the time of transfer, and typically entered the College of Arts and Sciences in "limited load" status (Table IV, pages 21-22).

- First year academic performance was related strongly to students' initial level of academic preparation, but retention and graduation (i.e., long-term performance) were related more strongly to economic factors (i.e., employment status, financial aid, parents' education). In this regard, retention and academic performance were related, but essentially distinct phenomena (page 36).

- Without controlling for semester of matriculation, Division transfer students spent an average of 4.24 terms in a degree-granting unit. At the end of Spring 1990, transfer students had a mean cumulative grade average of 2.16 and had earned 50.41 cumulative hours; 14.3 percent

were in dismissal status, 24.6 percent were on academic probation, and 61.1 percent were either in goodstanding or had graduated (Table V, page 26).

- Controlling for semester of matriculation, 95.7 percent of the transfer population completed one year at the University, 83.3 percent returned for a second year, 60.7 percent returned for a third year, 43.6 percent returned for a fourth year (or graduated), 35.6 percent returned for a fifth year (or graduated) and 38.7 percent returned for a sixth year (or more, or graduated, Table VI, page 29). Years/Terms of attendance need not have been consecutive.

- Controlling for semester of matriculation, 90 percent of all Division students (i.e., transfers and non-transfers) completed one year at the University, 80 percent returned for a second year, 55 percent returned for a third year, 38 percent returned for a fourth year (or graduated) and 31 percent returned for a fifth year (or more, or graduated, Table VII, page 31). Years/Terms of attendance need not have been consecutive.

- Despite being underprepared when they entered the University, transfer students were academically prepared when they transferred from the Division, i.e., academic problems were not a common cause of attrition However, transfer students tended to encounter academic difficulty in their first or second year of enrollment in a degree-granting unit (i.e., their second or third year at the University). Students who survived this passage were likely to persist and graduate (page 31).

- Between Fall 1985 and Spring 1990, 289 students "tested out" of the Division before matriculation (i.e., the "Early Transfer" population). While "Early Transfers" appeared to be better prepared academically (comparable to A&S "limited load" freshmen), they did not have access to the Division's academic and non-academic services. Half (51.1 percent) failed to return for their second year and 65.9 percent were either in dismissal status or on academic probation at the end of their last term of enrollment. The difference between the performance/ retention of "Early Transfers" and that of Division transfers is one primary measure of the impact of Division programs (pages 37-40).

- Through Spring 1990, 291 Division transfer students had graduated from the University, earning 309 academic degrees, i.e., 67 Associates degrees, 241 Bachelor's degrees and 1 Master's degree. Virtually all degrees were earned by students admitted before Fall 1985; nearly 40 percent of the 1982-83 and 1983-84 transfer cohorts had graduated (Table VIII, pages 33-34).

- The Preparatory Division had a strong enhancing effect on the performance, retention and graduation rates of white females and a moderate enhancing effect on African American students. White females tended to perform better, but African American students were more likely to persist (pages 35-36).

- Transfer students earned degrees from every degree-granting unit of the University (roughly 30 percent from the Schools of Education and Business). Moreover, a number of transfer students were enrolled (as of Spring 1990) in graduate (Education, Business, A&S) or professional school (Law, Medicine, Dentistry).

J. Blaine Hudson, Ed.D.
May 17, 1991

I. Introduction

Evolution of the Preparatory Division

Over the past generation, American higher educational institutions have opened their doors to masses of academically underprepared students. National studies conducted in the 1980's indicated that between 20 and 30 percent of all first-time college students were academically deficient in at least one basic skill area (Lederman, et al., 1983; U.S. Department of Education, 1985). In the fifteen states served by the Southern Regional Education Board (SREB), which includes Kentucky, 35.7 percent of all first-time freshmen in public colleges and universities were categorized as needing remedial/developmental instruction---with only modest percentage differences between two-year and four-year institutions (Southern Regional Education Board, 1988).

Since 1970, when the University of Louisville became a fully public institution, the presence of academically underprepared students has been addressed through a variety of policies, practices, programmatic and administrative structures. In the early 1970's, remedial instruction was first offered to students with deficient writing skills, many of whom entered the University as a result of its "open admissions" policy. Moreover, during this period, the tutoring program of the Office of Black Affairs (the Office of Minority Services since 1985) expanded to serve undergraduate and graduate students regardless of race.

By 1974-1975, the higher incidence of academic underpreparation and the high failure/attrition rates of African American students prompted the Kentucky General Assembly to create the West Louisville Educational Program (WLEP). WLEP was based in University College, the University's only open admission unit, and was designed, initially, to provide intensive counseling, academic advising, tutoring, a Summer Program, a University Orientation course, and remedial instruction to approximately one hundred African American freshmen. Although WLEP soon began serving students of all races, the growing number of underprepared students admitted to the University far exceeded the service capacity of the Program---resulting, in 1978, in the establishment of a federally funded Special Services for Disadvantaged Students (SSDS) program in University College to supplement WLEP. However, even with two special programs and more diverse remedial course offerings, the University had no comprehensive and organized approach to meeting the academic and non-academic needs of a population which, by 1980, had grown to represent nearly half of the first-time freshmen admitted to the institution (Hudson and Fitzpatrick, 1982; Report of the Steering Committee on Long-Range Planning and Priorities, 1982).

To address this dilemma, the University Board of Trustees voted to establish the Preparatory Division, effective July 1, 1982, and consolidate all remedial/developmental instructional programs, all tutorial programs for undergraduates (excluding student athletes) and several compensatory educational units under one administrative superstructure. The Division was assigned both the status of an academic/enrollment unit, to which all students initially inadmissible to a degree-granting unit would be admitted, and responsibility for all basic academic skills instruction and all tutorial support offered to University undergraduates (Preparatory Division Mission Statement, 1983; Preparatory Division Mission Statement, 1987).

Although the Preparatory Division began serving students in Fall 1982, students were not admitted, formally, to the unit until Spring 1983, i.e., after the disestablishment of University College in December 1982. The mission and program mix of the Division have remained essentially the same over time.

Purpose of the Study

Evaluating the overall effectiveness of the Preparatory Division poses several conceptual and methodological difficulties. As noted in previous research, not only must the efficiency of several systematic processes (e.g., placement testing and advising) be assessed, but the outcomes of several distinct instructional and support programs---along with the impact of the Division on the academic performance and retention of students---must be assessed as well (Hudson, 1986). Thus, overall unit effectiveness can be conceptualized only as a function of the outcomes of a number of distinct yet interrelated practices---specifically as these outcomes relate to student performance and retention. Moreover, it is crucial that unit effectiveness be evaluated in this "bottom line" context, since it is possible for each Division program to operate efficiently, and even effectively, while not necessarily contributing to these student-related outcomes. In other words, it is not enough to "do things right"; the Division must also "do the right things."

While the performance of Division students and the efficiency/efficacy of Division programs have been assessed on an on-going basis since Fall 1982, and the outcomes of each Division programmatic component have been subjected to at least one indepth statistical analysis---three fundamental questions must ultimately be asked, and answered, in order to gauge the overall effectiveness of the unit:

1) Can academically underprepared students become

"prepared" for college level work within a reasonable period of time (ideally, one year or less) and at a reasonable cost?

2) If so, how effective is the Division in remediating the academic deficiencies of underprepared students (i.e., at what percentage rate do students become eligible to transfer from the Division)?

3) After leaving the Division, how well do students so "prepared" function in the academic mainstream of the University (i.e., in comparison to students admitted without academic deficiencies)?

Ironically, the first two research questions cannot be answered completely or satisfactorily without first answering the third. However, because students have a relatively short-lived association with the Division, i.e., usually from one to three semesters, the Division is placed in the unenviable position of having to evaluate its effectiveness based on "what happens" to students years after their transfer to other academic units---to programs over which the Division has no control and in which the Division has no direct involvement. Nevertheless, these questions must be asked, and answered empirically (not philosophically), if there is to be any objective basis for extending educational opportunity to underprepared students---and these questions can be answered only by examining the performance and retention of Division students <u>after</u> they transfer from the Division.

Furthermore, past research has revealed that academically marginal "traditional" students often derive greater benefit from compensatory and/or developmental programs than do the students for whom such programs were created (Hudson, 1980; Lavin, et al., 1979). Consequently, a program may appear to be effective because the successes of its "unintended beneficiaries" are sufficient to balance or outweigh the failures of its "intended beneficiaries." Because students from racial/ethnic minority (primarily African American students) and lower socio-economic status groups are more likely to be academically disadvantaged, they have a far greater "stake" in the effectiveness of programs which often offer them their last legitimate chance at upward social mobility (Davis, et al., 1990). Thus, a fourth research question must be posed---separate from and yet implicit in each of the preceding questions:

4) Is the impact of the Preparatory Division uniform (positively or negatively) across demographic sub-groups?

This study will attempt to answer these questions by analyzing the characteristics (demographic and academic), academic performance and retention patterns of students admitted to the Preparatory Division between Spring 1983 and

Spring 1990 who achieved eligibility to transfer to a degree-granting unit. The performance patterns and characteristics of these "transfer" students will be examined, where appropriate, in relation to the aggregate Preparatory Division population. This study should be considered a replication and an extension of the first preliminary analysis of Division transfer students (Hudson, 1986).

II. Transfer Policy and Process

The current policy governing the transfer of Preparatory Division students to the College of Arts and Sciences was adopted in July 1984, and the administrative process used to identify and expedite the movement of students eligible to transfer was formalized in January 1985. A detailed discussion of the evolution of both the policy and process was included in the earlier "Transfer Study" (Hudson, 1986).

In theory, the academic skill competencies which students must demonstrate to establish their eligibility to transfer from the Preparatory Division are consistent with the requirements for direct admission to the least selective freshman admitting degree-granting unit of the University. In practice, students must either "test out" of, or complete satisfactorily (with a grade of "C" or better) the highest level Division courses in Reading (PREP 095, "Learning and Study Skills"), and English (ENG 099, "Basic Writing"), and MATH 075 ("Basic Mathematics). In addition to these requirements, students must maintain a satisfactory grade average in Division and college level courses. Students may also transfer in one of three academic statuses, i.e., limited load, probation, or good standing. Moreover, it is expected that students will transfer by the time they have completed twenty-four (24) semester hours (Consolidated Undergraduate Bulletin, 1990).

Since all students admitted to the Division are required to undergo placement testing in the three basic skill areas before matriculation, it is possible for students to "test out" of the Division altogether. These students are categorized as "Early Transfers" and, because they have academic characteristics similar to those of the students who remain in the Division, can be considered a comparison or control group. Since, by policy and organizational design, virtually all academically disadvantaged students are admitted to the Division, there is no other readily identifiable group of students whose performance and retention patterns reflect "what happens" to marginal students who do not have access to all Division services. Consequently, the transfer policy itself "creates" this "Early Transfer" population, which makes some comparative analysis possible (see Section X).

III. Data Sources, Research Methodology, and Report Format

For each student in the transfer population, a complete academic transcript was obtained from the Office of the Registrar, and all extant internal Division records were retrieved. Using these raw data, a computer data-base was constructed which contained the following discrete variables:

- Identifying data (name, Social Security Number);
- Demographic data (age, race, sex, residence, parents' educational level, employment status, financial aid status);
- Initial academic profile (high school grade average, ACT scores on the "old" ACT);
- Basic skills course placement data;
- Grouping variables (to identify inter-university transfers, Minimum Admissions Students, and Special Services Program participants);
- Division academic performance data (registration status, end of first semester academic status and performance, number of remedial hours earned, number of terms in the Division, academic status and performance at time of transfer);
- Post-transfer performance data (number of terms completed in a degree-granting unit, current/last unit of enrollment, current/last academic status, cumulative grade average and hours earned);
- Retention data (number of "years" enrolled);
- Graduation data (majors and degrees earned).

This data-base was subjected to statistical analysis using SPSS-X. Where appropriate, references to specific statistical procedures and tests of significance will be cited in the text, tables and appendices of the Report.

When the first "Transfer Study" was conducted, the Division had no direct access to the University mainframe computer system. Consequently, indepth statistical analysis was not possible. Moreover, to conduct a longitudinal study when the Division had only been in existence for four years limited the extent to which stable performance and retention patterns could be analyzed---and the extent to which graduation patterns could be examined. This study will be

free of such limitations and its findings should be more reliable and generalizable.

Given the wealth of data available and the myriad levels of analysis possible, the format of this study will differ somewhat from that employed in other Division research studies. The salient findings will be discussed using the transfer population in the aggregate as the unit of analysis. A series of statistical appendices will be used to provide data which supplement and illuminate the narrative sections of the study.

IV. Transfer Patterns: 1983 - 1990

Between the end of Spring 1983 and the end of Spring 1990, a total of 2,939 students achieved eligibility to transfer from the Preparatory Division to a degree-granting unit. This total excludes all students transferred on the basis of placement test results, i.e., the "Early Transfer" population. A detailed breakdown of the aggregate transfer population, by semester of matriculation, is presented in Table I, below:

Table I.

PD Transfer Students by Semester of Matriculation

Matriculated	N	%
Fall 1982	258	8.8
Spring 1983	85	2.9
Summer 1983	27	0.9
Fall 1983	449	15.3
Spring 1984	65	2.2
Summer 1984	11	0.4
Fall 1984	357	12.1
Spring 1985	62	2.1
Summer 1985	15	0.5
Fall 1985	309	10.5
Spring 1986	54	1.8
Summer 1986	19	0.6
Fall 1986	263	8.9
Spring 1987	44	1.5
Summer 1987	16	0.5
Fall 1987	251	8.5
Spring 1988	35	1.3
Summer 1988	13	0.4
Fall 1988	264	9.0
Spring 1989	52	1.8
Summer 1989	11	0.4
Fall 1989	253	8.6
Spring 1989	26	0.9
Total	2,939	

Because students remained in the Preparatory Division for one or more semesters before transfer, the total number of students enrolled in the Division in any given semester was comprised of both first-time students and students who had been enrolled for varying lengths of time. Consequently, the number of students transferring at the end of a given semester, as a percentage of the number of students enrolled for that semester, was usually no more than 30 percent---and did not represent an accurate transfer rate. However, an accurate transfer rate---i.e., both the effectiveness of the Preparatory Division in "preparing" students for college level work and the potential of underprepared students to achieve college level skill competencies---can be expressed only as the percentage of each cohort of students admitted to the Division (students who matriculated in the same semester) who eventually transferred to a degree-granting unit.

Table II, below, illustrates the relationship, over time, between cohort matriculation and transfer patterns for Division students admitted between Fall 1983 and Fall 1989 (Fall semester data only):

Table II.

PD Enrollment and Transfer Patterns: 1983-1989
(Fall Semester Data)

Semester	First-Time Students Admitted	N of Students Who Eventually Transferred	%
Fall 1983	782	449	57.4
Fall 1984	629	357	57.8
Fall 1985	501	309	61.7
Fall 1986*	391	263	67.3
Fall 1987	326	251	77.0
Fall 1988	387	264	68.2
Fall 1989	451	253	56.1
Total	3,467	2,146	61.9

* Implementation of Minimum Admission Standards.

As Table II indicates, 61.9 percent of the students admitted to the Division during this period eventually transferred. Because of the transitional nature of the 1982-

83 academic year, when the newly established Division served underprepared University College freshmen in Fall 1982, but did not admit students officially until Spring 1983, this academic year has been excluded from the Table. However, 62.4 percent (343 of 550) of the students admitted in Fall 1982 and served by the Division eventually transferred---raising the total percentage slightly to 62.0 percent.

In general, the number of Preparatory Division students transferring, by term and/or academic year, increased or declined consistent with comparable increases and declines in the number of students admitted to the Division. Division enrollment declined from 1982-83 until reaching its lowest point in 1987-88, and the rate of decline increased after the implementation of University-wide minimum admission standards (MAS) in Fall 1986. Another contributory factor was the implementation of the "Early Transfer" option for Fall 1985. As a result, the number of students admitted to the Division dropped during this period due both to external factors, i.e., fewer underprepared students gaining admission, and internal policy decisions. Despite declining enrollment, the transfer rate of Division students generally increased during this same period.

Division enrollment began increasing again in 1988-89. Although the transfer rates for 1988-89 and 1989-90 were lower, these figures should be treated as preliminary or incomplete---since, if the patterns established in previous years hold, additional students from these cohorts will become transferable.

It could be argued that the minimum admissions standards prevented the admission of students least likely to transfer and, thus, contributed to or caused the increase in transfer rate. However, many students with MAS profiles achieved transfer eligibility before Fall 1986 and, at best, the impact of MAS was balanced or outweighed by the impact of the "Early Transfer" policy. In other words, MAS may have removed the students least likely to transfer, but the "Early Transfer" policy may have removed the students most likely to transfer.

An equally credible, if not more credible, cause of the rather steady increase in transfer rate was the improvement and refinement of Division programs over the course of the unit's existence. Whatever the cause(s), three out of every five students admitted to the Division achieved college level skill competencies, as defined by the University of Louisville, since the establishment of the unit.

V. Demographic and Academic Profile

Preparatory Division transfer students represented a cross-section of the larger Division student population. In this respect, the Division students who achieved transfer eligibility resembled those who did not quite closely. Table III summarizes selected academic and demographic characteristics of the transfer population:

Table III.

PD Transfer Students:
Demographic and Academic Profile

Variable	N	%	Mean	Minimum	Maximum
Age	2,938		19.9	17.0	63.0
Race	2,935				
White	2,105	71.7			
Black	763	26.0			
Other	67	2.3			
Sex	2,939				
Female	1,651	56.2			
Male	1,288	43.8			
Residence	2,939				
Local	2,324	79.1			
KY	447	15.2			
Out-of-state	168	5.7			
Parents' Education	2,588				
No College	1,693	65.4			
Attended College	895	34.6			
Employment	2,588				
None	926	35.8			
Working Part-time	1,444	55.8			
Working Full-time	218	8.4			
Financial Aid Status	2,574				
None	1,049	40.8			
Receiving Aid	1,525	59.2			

Table III., continued.

Variable	N	%	Mean	Minimum	Maximum
High School GPA	2,180		2.40	0.20	4.00
ACT-Eng.	2,911		13.26	1.00	27.00
ACT-Math	2,910		9.35	1.00	27.00
ACT-Comp.	2,913		12.23	3.00	26.00
English Placement	2,939				
ENG 098	175	6.1			
ENG 099	1,774	60.4			
ENG 101	990	33.6			
Math Placement	2,939				
MATH 075	1,785	49.5			
MATH 099	954	32.5			
MATH 102	407	13.8			
Above 102	123	4.2			
Reading Placement	2,938				
READ 098	258	8.8			
READ 099	1,187	40.4			
PREP 095	486	16.5			
Exempt	1,007	34.3			
Special Status	2,939				
None	1,857	63.2			
Special Services	701	23.9			
MAS	55	1.9			
Transfer-in	245	8.3			
SS/MAS	9	0.3			
SS/Transfer	68	2.3			
MAS/Transfer	4	0.1			

Transfer students were similar to the aggregate Division population in terms of age, i.e., most entered the University within a year of high school graduation. Interestingly, transfer students---much as Division students in general---were likely to graduate from high school "late" (i.e., at 19, rather than 18, years of age), indicating that these students may have encountered previous problems in adjusting to school academically and/or socially. The causes of this phenomenon, while intriguing, could not be explored.

The breakdown of the transfer population by race and sex also paralleled similar data for all Division students. The percentage of female transfer students has increased since 1985, from 54.9 percent to 56.2 percent, the percentage of African American transfer students has increased from 25.6 percent to 26.0 percent, and the percentage of transfer students from other racial/ethnic groups has increased from 1.5 percent to 2.3 percent (Hudson, 1983; Hudson, 1985; Hudson, 1986). Thus, the transfer population has come to resemble the aggregate Division population more closely---a shift which, although desirable, may simply reflect the impact of the removal of the "Early Transfer" group in which the representation of white males was greater.

With respect to residence, parents' educational level, student employment status and financial aid status, transfer students did not differ markedly from other Division students, although transfer students were somewhat more likely to be "non-local." However, based on the information available, Division transfers and non-transfers differed from other students admitted to the University during the same time period in relation to most of these variables. Division students, in general, were more likely (65.4 percent) to be "first generation" college students---although less likely than might be supposed.

Most Division students were either employed or on financial aid, or both. Consistent with Census data, non-whites and families in which neither parent completed a college degree are more likely to be poor or economically marginal, and students from such families are affected not only by the absence of a family "tradition" of pursuing higher education (which does not seem to be a major obstacle), but even more directly by the need to finance their education---and often to support themselves and their families. Moreover, students from lower socio-economic status families have not been the primary political constituency served by the nation's public schools and, consequently, have not received the same measurable benefits from public school attendance, i.e., as indicated by grades, standardized test scores and graduation rates (Spring, 1976).

Whether these students (and their families) are "poor" because they are under-educated (or less capable) or under-educated (and, in effect, less capable as a result) because they are poor is a philosophical question with far-reaching implications for social policy. However, it is clear that academic and economic deficiencies are often difficult to disentangle, and that students who bring both into the University must manage pressures and balance conflicting demands from which most traditional students are insulated.

Division transfer students were no better prepared, on paper, than were Division students in general. High school grade averages and ACT scores were slightly higher for transfer students, but not significantly so. Moreover, course placement patterns did not differ significantly in English, but transfer students were somewhat more likely to place in MATH 099 or above, and to "test out" of Reading (Hudson, 1985; Hudson, 1986; Hudson, 1988).

The Division seemed to provide a meaningful opportunity for inter-university transfer students, many of whom had performed poorly at other institutions, to make academic progress. Participants in the Special Services Program who, by virtue of the Program's selection criteria, tended to be more deficient academically than the aggregate Division population---also achieved transfer eligibility at a rate comparable to their long-term representation in the Division. MAS students, who did not appear in the transfer population until 1986, transferred at a rate slightly lower than their percentage representation in the Division over the 1986-1990 period. However, MAS status was not a barrier to transfer, although the MAS sub-population was, arguably, the most underprepared group of Division students.

These data indicated that the transfer population entered the University with deficiencies in one or more academic skill areas. In many cases, these deficiencies were pronounced. However, students achieved transfer eligibility regardless of their initial academic profile---and students placed in the most basic remedial/developmental courses did not have a substantially lower probability of transfer than did students who placed in the higher level courses, or who "tested out" of most Division requirements.

VI. Academic Performance Before Transfer

While Preparatory Division transfer students were not distinguishable, with respect to their academic and demographic profiles, from the aggregate Division population, transfer students differed significantly from other Division students with respect to their academic performance after matriculation. Simply put, the fundamental distinction between transfer and non-transfer students was that the transfer students performed sufficiently well---and, in many cases, persisted sufficiently long---to qualify for admission to a degree-granting unit. Table IV summarizes the performance of these students through their last term in the Division:

Table IV.

Academic Performance Before Transfer

Variable	N	%	Mean	Minimum	Maximum
Registration Status	2,937				
Full-time	2,557	87.1			
Part-time	380	12.9			
Academic Status First Semester	2,937				
Dismissed	13	0.4			
Probation	447	15.2			
Good Standing	859	29.2			
Trans-Prob.	303	10.3			
Trans-L.L.	1,306	44.5			
Trans-GS	9	0.3			
Cumulative Hours Earned before Transfer	2,934		18.11	3.00	59.00
Remedial Hours Earned before Transfer	2,933		8.15	0.00	23.00
N of Terms in PD	2,933		1.81	1.00	9.00

Table IV., continued.

Variable	N	%	Mean	Minimum	Maximum
Academic Status at Time of Transfer	2,937				
Trans-Prob.	778	26.5			
Trans-LL.	1,827	62.2			
Trans-GS	332	11.3			
Cumulative GPA at Time of Transfer	2,937		2.56	1.00	4.00

As Table IV indicates, most Division transfer students registered for a full-time course load (twelve to fourteen hours) in their first University semester. In this respect, the transfer population was somewhat more likely to be "full-time" than was the aggregate Division population (Hudson, 1983).

First semester academic performance has been one of the most consistently reliable predictors of the long-term performance and persistence of college students (Noel and Levitz, 1982). The "end of first semester" academic status breakdown in Table IV reveals that a significant majority (84.4 percent) of transfer students either completed their first University semester in "good standing" or qualified for transfer to a degree-granting unit. (Under the current transfer policy, i.e., since Fall 1984, students can no longer transfer in "good standing" after only one semester.)

Most transfer students completed at least two remedial courses and remained in the Division for roughly two academic terms. However, a number of students were on academic probation or in dismissal status after their first semester, indicating that---while a "good start" was crucial to the achievement of transfer status---it was not impossible for students to overcome some initial difficulties.

These data also revealed the internal diversity of the transfer population with respect both to academic needs and pre-transfer performance patterns. Most transfer students achieved transfer eligibility after one or two semesters (i.e., within one academic year) of enrollment in the Division. However, a significant minority remained in the Division for three or more semesters/terms---many attending intermittently over a period of years. Since, for the purpose of this study, Summer term enrollment was "counted", and students tended to enroll in fewer courses during the Summer

(and transfer actions were not processed following the Summer term until Summer 1987), the mean number of terms in the Division prior to transfer should be considered as somewhat inflated.

The academic status distribution at the time of transfer indicated that nearly two-thirds of all transfer students qualified to enter the College of Arts and Sciences in "limited load" status. By definition, these students had cumulative grade averages of 2.00 or better in their pre-college and college level course work, but had not completed twelve (12) or more college level hours before transfer. As reflected in Table IV, the majority of "limited load" students transferred after one semester, but nearly one third were enrolled in the Division for two or more terms. The 11.3 percent of the transfer population which transferred in "goodstanding" also had cumulative grade averages of 2.00 or better in both college and pre-college level work, but had completed twelve (12) or more credit hours applicable to a degree.

Slightly more than one fourth (26.5 percent) of all transfer students entered the College of Arts and Sciences on academic probation. By definition, these students had cumulative grade averages of 2.00 or better in their pre-college level work, but had 1 - 19 quality point deficiencies in their college level work.

Before the implementation of the "Early Transfer" policy, i.e., before Fall 1985, Division students who needed no remedial work (based on placement test results) were nonetheless required to complete at least one semester in the Division before transferring to A&S. In most cases, these students (124, or 4.2 percent of the transfer population) enrolled only in degree-credit courses and the University Orientation course offered by the Division. Excluding this group, 78.9 percent of Division transfer students (and 69.5 percent of all students admitted to the Division) completed at least six (6) hours of pre-college level course work---and nearly 20 percent completed twelve (12) or more hours of Division work. Consequently, as noted in Section V., most Division transfer students were not "false negatives", i.e., academically prepared students "in disguise", but were students with measurable academic deficiencies who required, in many cases, an intensive and structured program of basic skills instruction and support services to become fully prepared for college level work.

Thus, the data pertaining to 1983 through 1990 Preparatory Division transfer students presented and discussed thus far in this report answer research questions 1 and 2 (page 9):

1) Academically underprepared students can be "prepared"

for college level work within a reasonable period of time, i.e., within one year of full-time enrollment in most cases. As the Preparatory Division was (and is) the most cost-effective of the University's academic/enrollment units (having no full-time, tenure track faculty positions), the cost of "preparing" academically underprepared students was more than reasonable.

2) Given a 61.9 percent transfer rate, the instructional programs and support services of the Division were effective in facilitating the academic and social development of underprepared students.

To summarize, students served by the Division have the potential to overcome their academic deficiencies---and the Division provides appropriate and effective means for them to do so.

VII. Academic Performance after Transfer

The performance and persistence of Preparatory Division students after transfer is a crucial test both of the effectiveness of the Division and of the legitimacy of offering educational opportunity to academically underprepared students. This test is implicit in research question 3 (page 9) and addresses the extent to which the academic preparation students receive in the Division enables them to begin, progress through and complete their chosen programs of study.

Obviously, the "connection" between the Division and its former students becomes attenuated over time, and the long-term performance and retention of Division transfer students can reasonably be defined as the cumulative effect of a number of contributory factors:

- the quality of academic preparation received in the Preparatory Division;
- the quality of instruction and support received in the degree-granting units;
- the personal motivation of the students; and
- the external circumstances of the students lives--- over which the University and often the students themselves have little or no control.

Notwithstanding these considerations, the patterns of performance and persistence exhibited by Division transfer students can be described and analyzed, and the impact of these contributory factors can at least be estimated. These patterns are summarized in Table V, below. However, before proceeding, it is important to understand that this summary information reflects the performance and enrollment of students admitted to the University over a seven year period. As a result, each cohort of transfer students is at a different milestone in its passage through the institution. For example, students who transferred after Fall 1989 could have completed no more than one term in a degree-granting unit, while students who transferred after Fall 1984 could have completed as many as fifteen. Section VIII (on "Retention Patterns") will focus specifically on cohort analysis and, where appropriate, such data will be discussed in this Section in relation to performance.

Table V.

Academic Performance After Transfer: Summary Data

Variable	N	%	Mean	Minimum	Maximum
Current/Last Enrollment Unit	2,918				
A&S	2,584	88.6			
Speed	43	1.5			
Business	107	3.7			
Education	77	2.6			
Music	2	0.1			
Nursing	26	0.9			
CUPA	46	1.6			
Allied Health	28	1.0			
Other	5	0.2			
Current/Final Academic Status	2,916				
Dismissed	481	14.3			
Probation	718	24.6			
Good-Standing	1,489	51.1			
Graduated	291	10.0			
Current/Final Cumulative GPA	2,916		2.16	0.58	4.00
Cumulative Hours Earned	2,915		50.41	1.00	186.00

As this Table indicates, the vast majority of Division transfer students were enrolled in the College of Arts and Sciences. Students who were last or currently enrolled in other academic units invariably transferred first to A&S, and subsequently to another academic unit (e.g., a senior college) after satisfying the admission requirements of that unit. In general, only the students admitted before Fall 1987 would have had ample time to move through A&S to another degree-granting unit.

Division transfer students completed an average of 4.24 terms in a degree-granting unit. While this figure does not distinguish between admission cohorts, it establishes nonetheless that, if transfer students spent the mean equivalent of one year (1.81 terms) in the Division and another 4.24 terms in a degree-granting unit---not controlling

for students admitted in recent years---the "staying power" of transfer students in degree-granting units was considerable. However, apart from variability between admission cohorts, there was tremendous variability within cohorts with respect to the number of terms completed after transfer---ranging from zero (0) to twenty (20), i.e., some students withdrew immediately after achieving transfer eligibility, while others attended virtually every term between Fall 1982 and Spring 1990.

Although transfer students tended to be the better performing segment of the Division's aggregate student population, their academic performance after transfer varied greatly. In terms of last/current academic status, 61.1 percent were enrolled or had withdrawn in "goodstanding", or had graduated (see Section IX) by the end of Spring 1990. Roughly one fourth (24.6 percent) were enrolled or had withdrawn on academic probation and another 14.3 percent were in dismissal status. However, the transcripts of this population indicated that it was not uncommon for students in dismissal status to gain readmission and, consequently, many of the students dismissed---particularly during the course of the 1989-1990 academic year---were likely to return to the University.

The final/cumulative University grade average was consistent with the academic status distribution discussed above. The mean grade average for the transfer population was 2.16, ranging from a low of 0.58 to a high of 4.00. Furthermore, cumulative/final hours earned were as much a function of the length of time (i.e., number of terms) students could possibly have spent at the University as of the strength of their academic performance. Although the mean was 50.41, the range extended from 1.00 to 186.00.

This level of analysis, although general and incomplete, indicates that most Division transfer students were able to meet, successfully, the academic demands of a degree-granting unit. Clearly, some students did not, but there were no data to suggest that their poor performance was due to lack of ability on their part or inadequate preparation in the Division.

VIII. Retention after Transfer

To complete an academic program of study, a student must sustain a satisfactory level of performance over the period of time (or number of courses) required for completion of that program. The patterns of enrollment, continuous or interrupted (i.e., stop-outs), over time can be viewed, conceptually, in two contexts. When focusing on the student, the terminology usually employed refers to "persistence", i.e., students persist through an institution. When focusing on the institution, the terminology employed refers to "retention" (or attrition), i.e., the institution retains students.

Each of these concepts and contexts "locates" the responsibility for completing an academic program in a different "place"---and each has profound implications for institutional programming (or the lack thereof) in support of students. In other words, if academic success over time is solely a function of student ability, effort and persistence, then institutions cannot be held accountable for student success or failure. However, if academic success over time is solely or largely a reflection of the quality of the interaction between the student and the institution (including institutional environment, programs, and personnel), then student success or failure is a measure of institutional effectiveness.

For the purposes of this study, a mixed conceptual model will be employed---a model which describes the enrollment patterns of students over time primarily in the context of retention. However, while the Preparatory Division seeks to promote retention, and therefore imposes few barriers to student persistence, the institutional environment into which Division students transfer is much less hospitable and supportive. Consequently, the commitment to persist becomes a crucial determinant of students academic success. While this commitment cannot be measured directly using the available data, it can be inferred, and some of the factors which enhance it can be identified.

Table VI describes the retention pattern of Division transfer students in the aggregate (pattern 1) and by cohort (pattern 2):

Table VI.

Retention After Transfer

Variable	N	%	Mean	Minimum	Maximum
N of Terms Enrolled in a Degree-granting Unit	2,918		4.24	0.00	20.00
Retention Pattern 1	2,918				
< Year 1	122	4.2			
Year 1	596	20.4			
Year 2	806	27.6			
Year 3	541	18.5			
Year 4	325	11.1			
Year 5	316	10.8			
Year 6	144	4.9			
Year 7	49	1.7			
Year 8	19	0.7			
Retention Pattern 2*	2,918				
Year 1	2,793	95.7 (of 2,918)			
Year 2	2,190	83.3 (of 2,630)			
Year 3	1,398	60.7 (of 2,303)			
Year 4	873	43.6 (of 2,002)			
Year 5	597	35.6 (of 1,676)			
Year 6	503	38.7 (of 1,299)			

* Based on the number of students who could have completed the year noted; graduates are considered to have been retained.

These data reveal a number of illuminating patterns. A relatively small percentage of transfer students (4.2 percent) withdrew from the University immediately after achieving transfer eligibility. Many of these students transferred to other institutions. Some may return to the University at some point in the future; while others may not. In relation to the Division, these students are "transfers." However, in relation to the College of Arts and Sciences, these students do not exist since they have yet to enroll in the College. Many of the students who complete one year (20.4 percent), but do not return for a second year, fall in this category as well.

Most transfer students (95.7 percent) completed their first year, as would be expected since many required at least one year to qualify for transfer. Most transfer students (83.3 percent) returned for their second year. However, between the second and fourth years of enrollment, considerable attrition occurred---and the transfer population was cut in half. Students who returned for their fourth year were likely to graduate or still be enrolled.

Whether transfer students left the University as a result of academic dismissal, poor academic performance or simply withdrew, most attrition occurred during their first and second years of enrollment in a degree-granting unit---or, stated differently, during their second and third years at the University. As the University's curriculum is structured, this is the time-frame during which students must complete their general education requirements and begin taking more advanced courses in their academic major.

Specifically, students who withdrew in goodstanding were likely to withdraw in their first (25.5 percent), second (24.2 percent) or third (16.3 percent) years of enrollment. Students who withdrew on probation were likely to withdraw in their first (25.1 percent), second (35.8 percent) or third (22.4 percent) years of enrollment. Most attrition due to academic dismissal occurred during the second (45.2 percent) and third (29.2 percent) years.

Further analysis of student transcripts revealed that, among students who were dismissed or who left the university voluntarily on probation, two basic patterns of performance and retention were evident:

- Some students encountered academic difficultyimmediately and failed to complete their second year; and

- Others experienced a gradual drop in performance which, over time, resulted in their being placed on academic probation and, if they could not reverse this trend, resulted eventually in their dismissal at some point in their second or third year.

The sub-population whose attrition was attributable to poor academic performance was divided nearly evenly between these categories. However, students who eventually reached their fourth year or beyond (or graduated) often encountered similar difficulties during their first or second year after transfer---but these students persisted, somehow, through these difficulties, drawing on their own resources and/or the support of the University.

Based on studies of the retention of University undergraduates in general, the retention pattern of Division transfer students did not differ markedly from that of the aggregate undergraduate population (Helm, 1984). However, the one exception was that Division transfer students were likely to experience second and third year attrition rates comparable to the first and second year attrition rates of their fellow students.

Using University data, past research and the information gathered for this study, it is possible to construct Table VII., which summarizes the retention/ attrition rates of the transfer population and estimates the cumulative retention/ attrition rate of Division students in the aggregate (transfer and non-transfer):

Table VII.

Aggregate Retention Pattern:
1983-1989 (Fall Semester Data)

Students who Could have*:	N	Transfers Retained	%	%**	Cumulative Attrition
Completed Year 1	3,467	2,793	80.6	90	- 10%
Returned Year 2***	3,016	2,190	72.6	80	- 20%
Returned Year 3	2,629	1,398	53.2	55	- 45%
Returned Year 4	2,303	873	37.9	38	- 62%
Returned Year 5	1,912	597	31.2	31	- 69%

* Cumulative total of first-time students admitted 1983-1989, Fall semesters only.

** Estimated adjustment to include non-transfers who

were also retained.

*** Years of attendance need not be consecutive, i.e., "stop-out's" are included.

It is misleading to assume that the Division students who did not achieve transfer eligibility failed to do so solely because of poor academic performance. Many non-transfers had laudable academic records, but simply withdrew from the Division before completing their Division requirements---much as many transfer students withdrew immediately after completing those same requirements.

Even assuming that transfer students were the most successful segment of the Preparatory Division population (using the achievement of transfer status as an outcome measure), their patterns of performance and retention overlapped, to some extent, those of many Division students who did not achieve transfer eligibility. For example, many non- transfer students remained enrolled into their second and, occasionally, their third years---while many transfer students left the University for academic or other reasons early in their academic careers. Moreover, since the dismissal rate for Division students has been relatively low (ca. 10 percent), <u>failure to transfer was seldom caused solely by academic problems</u> (Hudson, 1985; Hudson, 1990). Interestingly, the data in Table VII confirm the predictions made in the "student flow" model presented and discussed in the first "Transfer Study" (Hudson, 1986).

Based on the data examined in this and Section VII, the third research question (page 9) may now be answered---and research questions 1 and 2 may be answered more completely:

1) Academically underprepared students can become "prepared" for college level work.

2) The Preparatory Division can prepare these students effectively, i.e., 61.9 percent of each cohort of students admitted will qualify for transfer.

3) Finally, this preparation enables Division transfer students to perform, persist and graduate at rates comparable to those of other University undergraduates.

IX. Graduation Patterns

While the primary mission of the Preparatory Division may be accomplished by enabling students to overcome their academic weaknesses, the rate at which Division students make progress toward and complete academic degrees is an important--and highly visible---outcome measure. Moreover, Preparatory Division students may be non-traditional with respect to their academic and/or demographic backgrounds, but their educational aspirations tend to be quite traditional. Thus, Division students typically enter the University with the goal of earning a two- or four-year degree, or both, and many aspire to graduate or professional programs. In this respect, the completion of an academic degree is not only a measure of whether the Division achieves its long-term goals with students, but a measure of whether students achieve their goals at the University as well.

Through Spring 1990, 291 Preparatory Division transfer students earned a total of 309 academic degrees, i.e., 67 Associate degrees, 241 Bachelor's degrees and 1 Master's degree. As shown in Appendix H., these degrees were distributed across virtually all academic units and major programs. Moreover, a number of Division transfer students were enrolled (Spring 1990) in graduate programs, and the Schools of Law, Dentistry and Medicine.

Table VIII reflects the relation between admission/matriculation term and graduation:

Table VIII.

Preparatory Division Graduates: Summary Data

Degrees Earned by Semester of Admission

Semester Admitted	N of Degrees Earned
Fall 1982	91
Spring 1983	10
Summer 1983	4
Fall 1983	72
Spring 1984	4
Summer 1984	3
Fall 1984	76
Spring 1985	7
Summer 1985	4
Fall 1985	27
Spring 1986	0

Table VIII., continued.

Semester Admitted	N of Degrees Earned
Summer 1986	2
Fall 1986	6
Spring 1987	0
Summer 1987	1
Fall 1987	1
Spring 1988	0
Total	309

As would be expected, most Division graduates matriculated between Fall 1982 and Fall 1985, i.e., only the first few cohorts of Division students could have possibly been enrolled for the number of terms needed to earn the 120 or more hours required for a baccalaureate degree. Of the students who matriculated before Fall 1985, roughly 55 percent eventually transferred to a degree-granting unit and, of the students who transferred, roughly 25 percent earned a degree (through Spring 1990). However, many other students admitted during this period were still enrolled and nearing the completion of their degree programs. Moreover, assuming that the degree completion patterns established by these first groups hold for the later admission cohorts, a significant percentage of the students admitted in the past five to six years will eventually complete degrees.

Preparatory Division graduates were similar, demographically and academically (see Appendix I), to other Division transfer students---and, thus, to Division students in the aggregate. However, despite broad areas of similarity, there were also some noteworthy differences. Division graduates were somewhat more likely to be white and/or female than were Division transfer students (note Table III). Graduates were also slightly older at the time of matriculation, with parents who were slightly more likely to have attended college, slightly less likely to be employed, and slightly less likely to be financial aid recipients. Graduates tended to have slightly higher high school grade averages than did transfer students in general, but evidenced no differences in mean ACT scores. Moreover, the basic skills course placement patterns of Division graduates tended toward the upper level Division courses or college level courses.

Because the Special Services program served a higher percentage of the Division's population before Fall 1987 (i.e., 300 to 400 students compared to 200 students per year beginning in Fall 1987), the percentage representation of SSDS

students in the early matriculation cohorts---which included most Division graduates---was unusually high. Consequently, SSDS students, while constituting less than one fourth (23.9 percent) of the transfer population, were more than one third (34.7 percent) of the graduate population. In this regard, SSDS participation seemed to have had both a short- and long-term enhancing effect on the performance of Division students (see Appendix C).

Graduates were more likely to begin their studies on a full-time basis. Significantly, students who earned degrees also earned fewer remedial hours and were more likely to transfer in "limited load" status. Thus, the fact that graduates remained in the Division longer than did other transfer students was attributable, not to their needing more remedial work or their poor academic performance, but to the fact that most graduates matriculated before the transfer policy and process were clearly defined. Moreover, this additional time in the Division before transfer may have given graduates the advantage of having access to Division services over a longer period than would have been possible otherwise (as evidenced by the higher hours earned and grade average figures at the time of transfer). In other words, deferring the transfer of these students may have enabled them to begin their full transition to general education level courses while still in the supportive environment of the Division. The transfer rate for these early years was lower, but the students who transferred persisted longer and were more likely to graduate.

Although Division graduates transferred, initially, to the College of Arts and Sciences, they earned degrees from virtually all degree-granting units, and particularly from the Schools of Business and Education. The academic performance of the graduate sub-population reflected great diversity, with a few students graduating "with honors" or "with highest honors", while others barely met minimum graduation requirements.

To summarize, Preparatory Division students who earned academic degrees were not significantly different---academically or demographically---from other Division students. There were, however, a number of slight, but consistent differences which suggest a general tendency worthy of further examination. Moreover, since graduation was, to a great extent, more a function of retention/persistence than of performance, this tendency can be applied to the retention patterns of transfer students as well.

The Preparatory Division seems to have a strong enhancing effect on the performance and retention of white females and a moderate enhancing effect on African American students. For example, the percentage representation of white females increases at each "milestone" of the passage of Division

students through the University, e.g., the percentage of white females who transferred exceeded the percentage of white females admitted to the Division, and the percentage of white females who graduated exceeded the percentage of white females who transferred. It is likely that the same pattern will emerge for African American students, although over a longer period of time---since African American students tend to progress toward graduation more slowly.

Another, and possibly related, dimension of this pattern was the relationship between economic stability---as measured, indirectly, by parental education levels, student employment and financial aid status (all of which reflect student and/or family income)---and both retention and graduation. Students who were more solidly grounded economically were likely to persist, and students more likely to persist were also more likely to graduate. In this respect, the academic performance of most graduates was no better than that of a great many transfer students who "dropped-out" or "stopped-out." For example, it was not uncommon for graduates to have been on probation or even to have been dismissed at some point. However, the students who "dropped out" or "stopped out" were more likely to be employed, and for more hours per week, and also more likely to be financial aid recipients.

It is crucial to note that these demographic differences within the Division transfer population were insignificant compared to the differences between Division students and other University undergraduates. However, these patterns may, in reality, reflect two distinct realities. On one hand, white females may simply have been more likely to be economically secure than other Division students (i.e., non-traditional academically, but traditional in other respects)---and African American students, who were clearly not as solidly based economically, may simply have been more persistent. On the other hand, the Division may benefit some student sub-groups slightly more than others and, ironically, the groups which benefitted most from Division participation were the same groups which, historically, have benefitted least from enrollment in the University. This pattern answers research question 4 (page 9).

X. Comparison to Early Transfer Students

As noted in Sections II and III, the practice of admitting all academically underprepared students to the Preparatory Division virtually eliminated the possibility of identifying a group of students against which the performance and progress of Division students could be compared. However, before the establishment of the Division, research analyses were conducted which compared the performance of underprepared students who did and did not receive special instructional and support services (Hudson, 1980; Hudson, 1981). These studies revealed the significant enhancing effect of special program participation on both performance and retention---and, to some extent, were used to justify the creation of the Division itself.

The "Early Transfer" population cannot, in precise terms, be viewed as a comparison or control group since, beyond all other possible differences between these students and Division students, there was one crucial distinction---i.e., the "Early Transfer" students, by University definition, were better prepared academically. Notwithstanding this limitation, "Early Transfer" students were the closest approximation to a comparison group (i.e., similar to "limited load" students admitted directly to A&S) and their level of academic preparation at matriculation can be considered equivalent to that of Division students at the point of transfer. However, one group received Division services while the other group did not, and, assuming the equivalence of academic preparation, comparing the performance and retention of these groups was the best available means of isolating the overall impact of the Division.

Table IX compares the patterns of admission/ matriculation of the two groups since the implementation of the "Early Transfer" policy for Fall 1985:

Table IX.

PD Transfer and Early Transfer Admission Patterns

Academic Year	PD Transfers N	PD Transfers %	Early Transfers N	Early Transfers %
1985-86	363	22.6	123	42.5
1986-87	326	20.2	75	25.9
1987-88	302	18.8	53	18.4
1988-89	329	20.4	18	6.2
1989-90	290	18.0	20	6.8
Total	1,610		289	

Chi Square = 112.74; df = 13; $p < .000$.

As these data indicate, most "Early Transfer" students were admitted during the 1985-86 and 1986-87 academic years. Both the percentage of "Early Transfer" students (in relation to the aggregate "Early Transfer" population) and the percentage of "Early Transfer" students in relation to the total number of students admitted to the Division have declined consistently over time. This decline, moreover, became precipitous after Summer 1988, when the Division raised its exit-level Reading requirement from READ 099 to PREP 095, thus making it more difficult for students to "test out" of Reading. As a result, the "Early Transfer" policy had a major impact on Division enrollment between Fall 1985 and Spring 1987, but its impact in recent years has been minimal.

The "Early Transfer" population differed in a great many respects from Division transfer students (see Appendix H). The "Early Transfer" population was comprised of more white students, more males and more students from the local area. There were no statistically significant differences between Division transfer and "Early Transfer" student with respect to employment status, financial aid or parent's education.

While Division transfer students earned higher high school grades, "Early Transfers" scored significantly higher on the ACT English and ACT Mathematics subtests, and reported higher ACT Composite scores. Moreover, since placement test performance was the means by which "Early Transfers" were identified for reassignment to a degree-granting unit, this

population, as would be expected, was far more likely to "test out" of pre-college level courses.

Despite these differences, Division transfer students evidenced significantly better academic performance, i.e., in terms of academic status, cumulative grade average and cumulative hours earned---and retention patterns than did "Early Transfers." In essence, most (51.1 percent) "Early Transfer" students failed to return for their second academic year and, at the end of their last semester of enrollment, were either in dismissal status or on academic probation (65.9 percent).

To summarize, although "Early Transfer" students appeared to be stronger academically, based on the traditional measures of academic preparation (i.e., high school grades, standardized test scores and course placement), their academic survival and success rates were much lower than those of Division students. Based on these comparative data, the academic and non-academic preparation received by Division transfer students during their period of association with the Division clearly enhanced their probability of academic success and persistence.

Viewed from another perspective, the performance and retention patterns of "Early Transfer" students were strikingly similar to those of "open admission" students---thrust into the academic mainstream without preparation or support---before 1980. By assuming that this population was "prepared", when in fact it was not, many students who could have achieved their academic goals were not given a legitimate opportunity to do so.

XI. Predicting Academic Performance and Retention

The purpose of the preceding Sections of this report has been to describe the transfer population and its patterns of performance and retention. This section represents an attempt to explain, interpret and account for the patterns previously described.

No matter how homogeneous, no group is composed of individuals who are exactly alike. Beyond individual differences in skills, content knowledge, demographic characteristics, academic performance and retention---all of which were measured to some extent in this study---transfer students also differed from one another with respect to motivation, career aspirations and personality orientation---differences which could be inferred from the data in some cases, but which, in general, were beyond the scope of this research.

As the preceding sections indicate, the patterns of academic performance and retention of Preparatory Division transfer students as a group masked a number of often significant differences in performance and retention patterns between various sub-groups within the transfer population. Thus far, the analysis of these data has focused on bivariate relationships, i.e., the relationship between two particular variables (e.g., sex and performance). However, this level of analysis ignores more complex interactions between two or more variables and the performance/retention outcome measures. Only the use of multivariate statistical techniques can identify the sets or clusters of variables which might explain or predict performance and retention more accurately.

A series of multivariate analyses of variance, multiple regression and discriminant analysis procedures were performed in an effort to illuminate more clearly the patterns of academic progress and performance of Division transfer students. Several pools of variables were defined---each of which reflected the information available or ascertainable on each student at a particular point in that student's association with the University. For example, the pool of demographic and academic profile variables represented the information available at the time of admission. These variables, along with placement test results, reflected the information available at the time of matriculation. The academic performance variables represented actual performance in University courses, while the retention variables represented each student's enrollment pattern over time.

Which, if any, of these pools of variables can predict performance and/or retention accurately has far-reaching implications for University policy and program development initiatives. For example, if long-term performance and

retention can be predicted reliably using only information which can be gleaned from an admissions application, or after placement testing, the University can---within limits---identify "which students" are most likely to succeed academically, "which students" are least likely to succeed, and adjust its admission policies accordingly. However, if long-term performance and retention cannot be predicted accurately using pre-matriculation data, or can be predicted accurately using only information which emerges after matriculation (through actual interaction with the University), great caution should be exercised in basing admissions policies on the types of pre-admission data (e.g., high school grades, ACT scores) used traditionally for that purpose. Thus, the attempt to analyze and predict the performance and retention of underprepared students is far more than a sterile scholastic exercise---but addresses the fundamentally political question of "who" will have access to higher education and the objective criteria on which access will be granted or withheld.

The analysis of variance procedures (not shown) indicated that transfer students' grade averages at the time of transfer (N=2,889) were significantly related to student employment status and the interaction between employment status and parental education level ($f=3.42$, $df=12$, $p < .00$), race and sex ($f=7.37$, $df=12$, $p < .00$), and Reading placement ($f=3.58$, $df=15$, $p < .00$). Within the restricted range of ACT scores for this population, the ACT composite score was significant, or nearly significant, as a covariate. Thus, students who worked part-time and whose parent(s) had attended college (i.e., students more likely to come from higher socio-economic status homes), who were white and female, and who placed in the higher level Reading courses (or "tested out" of Reading)--tended to transfer with higher grade averages. No other variables, or interactions or covariates, were statistically significant.

Final/current grade average (N=2,889) was related strongly to most of the same factors: student employment status, and the interaction between employment and parents' education ($f=3.42$, $df=12$, $p < .00$); end-of-first semester and transfer academic status, and their interaction ($f=27.58$, $df=14$, $p < .00$); English and Reading placement ($f=3.34$, $df=15$, $p < .00$), but not their interaction; race, sex, and their interaction ($f=13.78$, $df=12$, $p < .00$). ACT composite was, once again, a significant covariate. Thus, by way of interpretation, the same students who performed well in the Division before transfer were likely to maintain that level of performance after transfer. Interestingly, while English placement had no significant bearing on transfer grade average, it was significant with respect to long-term academic performance. Moreover, Mathematics placement was not significant---but, it is crucial to note, most transfer students tended to place into the more basic Mathematics

courses (i.e., there was comparatively little variation with respect to Mathematics placement), which did not hinder them in achieving transfer eligibility. Moreover, most Division transfer students matriculated before the implementation of the current general education requirement in Mathematics. In other words, Mathematics may become a much more significant factor with respect to long-term performance in the future.

Final/current academic status (N=2,889) was also strongly related to the same demographic ($f=6.85$, $df=12$, $p < .00$) and placement ($f=2.54$, $df=15$, $p < .00$) variables described above. As would be expected, this similarity reflected a positive linear relationship between grades and academic status based largely on grades.

At this level of analysis, retention was related to academic performance, but represented a distinct phenomenon and outcome measure. Many of the same factors which were related significantly to the performance outcomes, at various points in time, were also significant factors with respect to retention---but often in wholly different ways: student employment status (in this case, "not working") and parents' educational level ($f=6.19$, $df=12$, $p < .00$), but not their interaction; end-of-first semester and transfer academic status ($f=17.57$, $df=14$, $p < .00$); English and Reading placement ($f=18.58$, $df=15$, $p < .00$); race, sex, and the interactions between race and residence, and sex and residence ($f=4.69$, $df=12$, $p < .00$). In addition, special program/ admission status, which had no bearing on performance, was significantly related to retention ($f=3.27$, $df=10$, $p < .00$). Thus, employment seemed to enhance performance and inhibit retention. Moreover, the retention of black female Kentucky residents (non-local) and Special Services participants was significant---indicating that these groups (which may, in fact, be the "same" group) did not perform quite as well and also progressed more slowly after transfer, but that they, in the long-term, made significant progress nonetheless.

Table X summarizes the results of a series of multiple regression procedures:

Table X.

Multiple Regression Summary

Dependent Variable*	Variable Pool	Multiple R	sign.(f)	Variance Explained
Status1	Demographic, Academic, Placement	.3012	.0000	9.1%
Status2	Demographic, Academic, Placement	.4206	.0000	17.7%
Retention	Demographic, Academic, Placement	.4189	.0000	17.6%
GPA2	All	.5978	.0000	35.7%
Status3	All	.4492	.0000	20.2%
Progress	Demographic, Academic	.2152	.0000	4.6%
Progress	Demographic, Academic, Placement	.2285	.0000	5.2%
Progress	All	.4422	.0000	19.6%

* Status1 = end of first semester academic status.

GPA1 = cumulative gpa at time of transfer.

Status2 = transfer status.

GPA2 = current/final cumulative gpa.

Status3 = current/final academic status.

Progress = current/final gpa and retention.

Table X indicates that, while the academic performance and retention of Division transfer students could be predicted with a statistically significant degree of accuracy, none of the prediction equations produced a Multiple Regression coefficient which, when squared, "explained" or "accounted for" more than roughly one third (at most, 35.7 percent) of the variance in the actual values of any outcome measure. Thus, although the relationship between the selected clusters of independent variables (i.e., predictors), and the various

dependent variables was not random, most of the variation in academic performance and retention could not be explained reliably. Based on these data, either factors/variables outside the scope of this study or the interactions between one or more factors (as suggested in the discussion of the analysis of variance results above) may hold greater predictive or explanatory power.

Table XI approaches the question of explaining or predicting performance and retention from a somewhat different analytical and methodological perspective. While the analyses of variance and regression analyses dealt with dependent variables measured on a continuous or interval scale, the discriminant analyses required that the dependent variable be compressed or collapsed into two or more categories---thus, minimizing the significance of relatively minor differences (e.g., between grade averages of 2.5 and 2.4) which may have obscured broad and important relationships. In this regard, the functions produced by each procedure reflected the extent to which particular variables, selected from each set or cluster of variables, discriminated between students who performed satisfactorily (i.e., 2.00 or above grade average, goodstanding or graduation status) or unsatisfactorily (below 2.00 grade average, dismissal or probationary status), or who were retained or not retained.

Four pools of independent variables were defined:

1) demographic variables only;

2) pre-matriculation variables only;

3) demographic and pre-matriculation variables; and

4) academic performance before transfer.

Discriminant analyses were performed, using each pool of variables, with either academic performance or retention as the dependent variable. Moreover, similar analyses were performed on the pre- and post-MAS segments of the transfer population to determine, if possible, how the characteristics, performance and retention patterns of transfer students changed after the end of "open admissions."

Table XI.

Discriminant Analysis Summary

Dependent*	Variable Pool	N	sign.	% Predicted Correctly
Status3	Demographic	2,428	.0015	59.73%
Status3	Academic, Placement	2,166	.0089	56.90%
Status3	Dem., Acad. Placement	1,819	.0003	59.44%
Status3	Performance	2,909	.0000	68.96%
Enrolled	Demographic	2,428	.9512	50.23%
Enrolled	Academic, Placement	2,166	.0003	58.44%
Enrolled	Dem., Acad., Placement	1,819	.0070	59.60%
Enrolled	Performance	2,930	.0000	57.24%
Pre-MAS:				
Status3	Demographic	1,336	.5996	58.04%
Status3	Academic, Placement	1,086	.1280	56.41%
Status3	Dem., Acad., Placement	868	.3792	59.58%
Status3	Performance	1,669	.0000	65.67%
Post-MAS:				
Status3	Demographic	1,092	.0008	58.47%
Status3	Academic, Placement	1,080	.0356	56.65%
Status3	Dem., Acad., Placement	951	.0003	62.47%
Status3	Performance	1,240	.0000	69.27

* Variable Definitions:

Status3: current/final status (1 = dismissal or probation; 2 = goodstanding or graduation).

Enrolled: current enrollment status (1 = not enrolled; 2 = enrolled or graduated).

Table XI reveals that, in general, the long-term academic performance of Division transfer students could be predicted with a moderate degree of accuracy using either a combination of pre-matriculation variables---or a set of pre-transfer performance variables. The following variables (and their interpretation) satisfied the inclusion criteria for the pre-matriculation discriminant function:

1) Age (older);

2) Race (white);

3) Sex (female);

4) Residence (non-local);

5) Parents' educational level (attended college);

6) Employment status (employed part-time);

7) Financial aid status (not receiving aid);

8) High School grade average (higher);

9) ACT English (higher);

10) ACT Math (higher);

11) ACT Composite (higher);

12) English Placement (lower);

13) Math Placement (lower); and

14) Reading Placement (higher).

While transfer students with these characteristics tended to perform better academically, as defined by final/current academic status category, the discriminant function composed of these variables could be used to predict the performance (i.e., to classify) only 59.44 percent of the transfer population. Although a marked improvement over the results obtained from Multiple Regression, a significant component of performance still could not be explained or predicted with acceptable precision.

A discriminant function including the following pre-transfer performance variables was somewhat more useful:

1) End-of-first semester status (lower);

2) Transfer academic status (higher);

3) N of Division hours earned (lower);

4) N of terms in the Division (lower);

5) Grade average at the time of transfer (higher); and

6) Hours earned at the time of transfer.

This function could be used to classify/predict 68.96 percent of all cases. Viewed together, these two discriminant functions indicate that white female students from more economically secure families, who were slightly older than the mean for this population, who lived outside Jefferson County, who had average to above high school records, with relatively higher (marginal to average for the University) ACT scores and lower course placement levels (except in Reading), who remained in the Division for no more than two terms and transferred with reasonably high grade averages tended to perform better after transfer.

Retention of the transfer population was analyzed using the same pools of variables noted above. The pre-matriculation variables which satisfied the inclusion criteria for this discriminant functioned were as follows:

1) Age (older);

2) Race (African American);

3) Sex (female);

4) Residence (non-local);

5) Parents' educational level (attended college)

6) Employment status (unemployed or part-time);

7) Financial aid status (receiving financial aid);

8) High School grade average (higher);

9) ACT English (lower);

10) ACT Math (higher);

11) ACT Composite (higher);

12) English Placement (lower);

13) Math Placement (higher); and

14) Reading Placement (higher).

As Table XI indicates, this discriminant function could be used to predict/classify 59.60 of all cases. Moreover,

retention could be predicted using the following pre-transfer performance variables:

1) End-of-first semester academic status (higher);

2) Transfer status (higher);

3) N of Division hours earned (higher);

4) N of terms in the Division (lower);

5) Grade average at the time of transfer (higher); and

6) Hours earned at the time of transfer (higher).

The discriminant function based on actual performance in the Division could predict/classify only 57.24 percent of all cases.

Because both retention and performance could be related to when transfer students matriculated---and the policies and other institutional conditions prevailing at that time---another series of discriminant analyses were performed on each matriculation cohort of the transfer population, and on the aggregate pre- and post-MAS subgroups (i.e., students admitted before Fall 1986 and students admitted for Fall 1986 or thereafter). These analyses controlled both for the range of possible academic profiles and for the length of time a student could possibly have been retained.

The results of these analyses were not significant with respect to retention. However, the demographic variables alone, as well as the pre-matriculation variables and the pre-transfer performance variables were far more significant as predictors of the academic performance of post-MAS students---indicating that the post-MAS population had more "traditional" student characteristics and that its performance, although not its retention, could be predicted using more "traditional" variables.

Clearly, academic performance and retention were similar--but not the same---phenomena. The variables which predicted one outcome did not necessarily predict the other, and were often related positively to one and negatively to the other (e.g., race and work status). Many students who performed well were not retained and ascertaining whether they "dropped out" of higher education altogether or transferred to another institution was beyond the scope of this study. On the other hand, many students who did not perform as well persisted nonetheless.

Neither the analyses of variance, multiple regression procedures nor discriminant analyses, although statistically significant, predicted the performance and retention of

transfer students with a high degree of precision. Consequently, reviewing a student's admission application, or placement test scores, or even his/her record at the point of transfer, could not predict his/her long-term performance or retention. The analyses discussed in this Section permitted the isolation of certain crucial components of performance and retention---and, thus, revealed their complex interactions and contributions to the outcome measures under examination. However, much remained unexplained. In particular, the influence of student economic status, student motivation and the inhibiting or enhancing effect of students' interaction with the larger University environment may have been far more important than tested academic ability or potential.

XII. Conclusion

For more than a century (since the passage of the first Morrill Act in 1862), the tension between the democratic and elitist visions of the social, political and economic role of education has shaped American educational policies, programs and institutions (Nasaw, 1979; Persell, 1977). To the extent that the democratizing tendency has prevailed, colleges and universities have opened their gates---often reluctantly---to students who were "different" in terms of age, race, socio-economic status and academic background.

Ironically, students with the greatest needs have been asked to assume the heaviest burdens and overcome the most imposing barriers in pursuit of a college education, and the practice of offering an educational opportunity to ostensibly underprepared students has resulted, in many institutions, in the creation of a "dual track" system---with underprepared students segregated in the lower track with little possibility of ever reaching the academic mainstream (Davis, et al., 1990). However, only to the extent that equal educational opportunity leads to substantial equality of educational result can the admission of underprepared students, and the existence of programs to serve them, be justified on ethical, political and educational grounds.

Whether equal opportunity exists depends, initially, on whether underprepared students have reasonably open access to higher educational institutions, i.e., whether they can gain admission and whether they can afford the cost of tuition. With respect to admission, it is crucial to understand that the indicators of academic preparation most often used in admission policies, i.e., high school grades and standardized test scores, cannot be viewed as absolute measures of intellectual ability or potential. High school grades reflect, in many cases, the quality of the sustained interaction between a student and his/her secondary school over a period of four years---and may be influenced by a variety of academic and non-academic factors (Spring, 1976). Standardized test scores reflect, in many cases, reading proficiency, ability to perform under time constraints, familiarity with the nuances of prevailing cultural norms, and how much (of what the test "tests") the student has learned by and can demonstrate on the testing date, i.e., achievement.

However much a standardized test may be designed to measure innate academic ability or potential, it must also measure academic skills, acquired background knowledge and the degree to which a student has learned to follow the logic of the test-makers. Obviously, both high school grades and standardized tests may indicate the level of preparation and ability or potential of some students---but, when colleges and universities assume that these indicators apply to all

students, and base policies and practices on such assumptions, a great many students can be impacted adversely.

By extending this logic, we should expect that a number of students who appear "on paper" to be well or adequately prepared are, in fact, marginally or underprepared. Conversely, we should expect that a number of students who appear "on paper" to be marginally or underprepared are, in fact, adequately or well prepared. The hypotheses implicit in these expectations have been confirmed repeatedly by this study and past research on Preparatory Division students. Moreover, since academic preparation is not synonymous with academic potential, we should expect that many students who are actually marginally or underprepared, regardless of what is suggested or predicted by their high school grades or standardized test scores, have the potential to progress through the University---if appropriate instruction and support services are provided, and provided in a timely manner. Once again, this hypothesis was supported by the data analyzed in this study.

Beyond the question of access, whether educational opportunity leads to measurable and desirable outcomes depends on how an institution chooses to serve the underprepared students it admits. The patterns of performance and retention of Preparatory Division transfer students indicate that the investment in educational opportunity at this institution has produced significant results. However, although noteworthy in general, the findings of this study also raise numerous questions.

For example, the Division has been effective in providing the instruction and support needed to facilitate the academic and social adjustment of its students to the University, but students receive little, if any, organized assistance after transferring to a degree-granting unit. This may be desirable, and some would argue that too much support, over too long a period of time, encourages excessive dependency. On the other hand, many Division transfer students were not acclimated fully to the University---academically or socially---at the time of transfer, and a more flexible definition of support, as well as a broader definition of academic underpreparation, may be needed.

Beyond academic and social needs, underprepared students tended to be more marginal economically and, consequently, were not insulated from the effects external circumstances to the extent common among many of their more advantaged counterparts. Few Division transfer students, and few Division students in general, were unable to meet the academic demands of the University. However, a great many Division students were unable to persist.

If colleges and universities, and their students, existed in a vacuum, the conceptual framework outlined above would be sufficient both to predict and explain academic performance. However, higher educational institutions are major social institutions and cannot be isolated from the influences of the larger society to which they belong and of which they are an expression---and a non-selective, urban, public university is, perhaps, the least isolated of all post-secondary institutions since it enrolls a student population that represents a cross-section of its service region. The academic performance of college students is a function of the interaction between the student, and all that the students "brings with him/her", and the totality of the college environment. If circumstances in the student's life---e.g., work, family instability, poverty, illness---become problematic, the best student will find his/her academic efforts undermined. While the direct influence of the campus environment has not been measured, we can infer at least that a certain relative stability in the personal lives of students contributes significantly to creating the preconditions necessary for performance and retention. Exploring the impact of external and campus environmental factors is the logical "next step" with respect to future research.

The University cannot control for or mitigate the effects of factors external to the campus. However, an effort can be made to understand these factors and how they impact students--and to establish expectations for and policies governing academic performance and progress which are reasonable in light of these factors.

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APPENDIX

Statistical Note:

The Chi-square test of statistical significance was used when both the dependent and independent variables were defined categorically. Analysis of variance was employed when the independent variable was measured on a more or less continuous scale.

The raw Chi-square value and F-ratio (for the analysis of variance) will be cited, as appropriate, in the following appendices---as will the probability (p) that a relationship between the variables in question could have occurred by chance (i.e., randomly). The raw Chi-square and F-ratio values can be considered to reflect the strength of the relationship under examination. This additional information will be provided only when the $p < .05$ level of confidence has been achieved.

Column percentages only.

Appendix A.

Summary Data by Race

Variable	N	White	%	Black	%	sign.
Age	2,868	20.1		19.5		f=12.06; p < .00
Sex	2,868	2,105		763		Chi-sq=
Female		968	46.0	282	37.0	18.56;
Male		1,137	54.0	481	63.0	p < .00
Residence	2,868	2,105		763		Chi-sq=
Local		1,773	84.2	491	64.4	161.28;
KY		268	12.7	173	22.6	p < .00
Other		64	3.1	99	13.0	
Parents' Ed.	2,527	1,839		688		Chi-sq=
No college		1,161	63.1	495	71.9	17.23;
Attended College		678	36.9	193	28.1	p < .00
Work Status	2,530	1,843		687		Chi-sq=
Not Working		504	27.3	394	57.4	200.76;
Part-Time		1,153	62.6	267	38.9	p < .00
Full-Time		186	10.1	26	3.8	
Financial Aid	2,514	1,818		696		Chi-sq=
No Aid		942	51.8	85	12.2	326.69;
Receiving Aid		876	48.2	611	87.8	p < .00
High School GPA	2,130	2.39		2.39		n/s
ACT English	2,841	13.69		12.23		f=84.82; p < .00
ACT Math	2,840	9.71		8.13		f=66.39; p < .00
ACT Composite	2,842	12.65		11.02		f=232.33; p < .00

Variable	N	White	%	Black	%	sign.
Eng. Course	2,868	2,105		763		Chi-sq=
ENG 098		89	4.2	82	10.7	83.16;
ENG 099		1,224	58.1	507	66.4	p < .00
ENG 101+		792	37.7	174	22.8	
Math Course	2,868	2,105		763		n/s
MATH 075		1,026	48.7	410	53.7	
MATH 099		713	33.9	221	29.0	
MATH 102		283	13.4	103	13.5	
MATH 103+		83	4.0	29	3.8	
Read. Course	2,867	2,104		763		Chi-sq=
READ 098		99	4.7	141	18.5	216.54;
READ 099		794	37.7	362	47.4	p < .00
PREP 095		363	17.3	117	15.3	
Exempt		848	40.3	143	18.7	
SSDS	2,868	2,105		763		Chi-sq=
Regular PD		1,624	77.1	485	63.6	53.11;
SSDS		481	22.9	278	36.6	
Registration Status	2,866	2,104		762		Chi-sq=
Full-Time		1,775	84.4	717	94.1	46.69;
Part-Time		329	15.6	45	5.9	p < .00
First Semester Status	2,866	2,104		762		Chi-sq=
Dismissed		11	0.5	2	0.3	75.49;
Probation		294	14.0	144	18.9	p < .00
Goodstanding		538	25.6	292	38.3	
Trans.- Prob.		225	10.7	74	9.7	
Trans.- L.L.		1,029	48.9	249	32.7	
Trans.- GS.		7	0.3	1	0.1	
Transfer Status	2,866	2,104		762		Chi-sq=
Probation		509	24.2	256	33.6	31.25;
Limited Load		1,375	65.4	413	54.2	p < .00
GS		220	10.5	93	12.2	
Remedial hours Earned	2,862	7.45		10.07		f=219.73; p < .00

Variable	N	White	%	Black	%	sign.
Transfer GPA	2,866	2.59		2.46		f=35.84; p < .00
N of terms in PD	2,868	1.70		2.08		f=55.30; p < .00
Cum. Hours Earned Before Transfer	2,863	17.07		20.75		f=91.70; p < .00
N of Terms enrolled after Transfer	2,850	4.10		4.60		f=8.78; p < .00
Retention	2,850	2,094		756		Chi-sq=
< 1 year		96	4.7	21	2.8	24.41;
Completed 1 year		466	22.3	122	16.1	p < .00
Returned year 2		567	27.1	224	29.6	
Returned year 3		370	17.7	147	19.4	
Returned year 4		227	10.8	88	11.6	
Returned year 5		221	10.6	90	11.9	
Returned year 6		98	4.7	44	5.8	
Returned year 7		37	1.8	11	1.5	
Returned year 8		10	0.5	9	1.2	
Current/Last Status	2,848	2,093		755		Chi-sq=
Dismissed		244	11.7	161	21.3	53.41;
Probation		504	24.1	205	27.2	p < .00
Goodstanding		1,124	53.7	323	42.8	
Graduated		221	10.6	66	8.7	
Current/ Final GPA	2,848	2.21		2.00		f=80.30; p < .00
Current/Final Hours Earned	2,847	48.76		57.44		f=11.87; p < .00

Appendix B.

Summary Data by Sex

Variable	N	Male	%	Female	%	sign.
Age	2,867	20.10		19.84		n/s
Race	2,868	1,250		1,618		Chi-sq=
Black		282	22.6	481	29.7	18.56;
White		968	77.4	1,137	70.3	p < .00
Residence	2,868	1,250		1,618		Chi-sq=
Local		948	75.8	1,316	81.3	33.32;
KY		196	15.7	245	15.1	p < .00
Other		106	8.5	57	3.5	
Parents' Ed.	2,527	1,081		1,446		n/s
No college		696	64.4	960	66.4	
Attended College		385	35.6	486	33.6	
Work Status	2,530	1,089		1,441		n/s
Not Working		380	34.9	518	35.9	
Part-Time		611	56.1	809	56.1	
Full-Time		98	9.0	114	8.0	
Financial Aid	2,514	1,086		1,428		n/s
No Aid		456	42.0	571	40.0	
Receiving Aid		630	58.0	857	60.0	
High School GPA	2,130	2.29		2.47		f=53.09; p < .00
ACT English	2,841	12.45		13.94		f=113.99; p < .00
ACT Math	2,840	9.91		8.81		f=41.25; p < .00
ACT Composite	2,842	12.49		12.01		f=24.04; p < .00

Variable	N	Male	%	Female	%	sign.
Eng. Course	2,868	1,250		1,618		Chi-sq=
ENG 098		99	7.9	72	4.4	41.64;
ENG 099		801	64.1	930	57.5	p < .00
ENG 101+		350	28.0	616	38.1	
Math Course	2,868	1,250		1,618		n/s
MATH 075		605	48.4	831	51.4	
MATH 099		410	32.8	524	32.4	
MATH 102		172	13.8	214	13.2	
MATH 103+		63	5.0	49	3.0	
Read. Course	2,867	1,249		1,618		Chi-sq=
READ 098		113	9.0	127	7.8	16.40;
READ 099		503	40.3	653	40.4	p < .00
PREP 095		172	13.8	308	19.0	
Exempt		461	36.9	530	32.8	
SSDS	2,868	1,250		1,618		Chi-sq=
Regular PD		960	76.8	1,149	71.0	12.13;
SSDS		290	23.2	469	29.0	p < .00
Registration Status	2,866	1,248		1,618		n/s
Full-Time		1,091	87.4	1,401	86.6	
Part-Time		157	12.6	217	13.4	
End of First Semester Status	2,866	1,248		1,618		Chi-sq=
Dismissed		10	0.8	3	0.2	15.69;
Probation		218	17.5	220	13.6	p < .00
Goodstanding		363	29.1	467	28.9	
Trans.- Prob.		124	9.9	175	10.8	
Trans.- L.L.		530	42.5	748	46.2	
Trans.- GS.		3	0.2	5	0.3	
Transfer Status	2,866	1,248		1,618		Chi-sq=
Probation		367	29.4	398	24.6	9.13;
Limited Load		757	60.7	1,031	63.7	p < .00
GS		124	9.9	189	11.7	
Remedial hours Earned	2,862	8.29		8.03		n/s

Variable	N	Male	%	Female	%	sign.
Transfer GPA	2,866	2.48		2.61		f=40.03; p < .00
N of terms in PD	2,868	2.08		1.70		f=55.30; p < .00
Cum. Hours Earned Before Transfer	2,863	18.75		17.50		f=13.02; p < .00
N of Terms enrolled after Transfer	2,868	4.37		4.12		n/s
Retention	2,850	1,245		1,605		Chi-sq=
< 1 year		45	3.6	74	4.6	18.34;
Completed 1 year		224	18.0	364	22.7	p < .00
Returned year 2		351	28.2	440	27.4	
Returned year 3		239	19.2	278	17.3	
Returned year 4		142	11.4	173	10.8	
Returned year 5		139	11.2	172	10.7	
Returned year 6		66	5.3	76	4.7	
Returned year 7		26	2.1	22	1.4	
Returned year 8		13	1.0	6	0.4	
Current/Last Status	2,848	1,243		1,605		Chi-sq=
Dismissed		199	16.0	206	12.8	20.05;
Probation		345	27.8	364	22.7	p < .00
Goodstanding		583	46.9	864	53.8	
Graduated		116	9.3	171	10.7	
Current/Final GPA	2,848	2.07		2.22		f=51.28; p < .00
Current/Final Hours Earned	2,848	50.87		49.80		n/s

Appendix C.

Summary Data by Special Services Program Status

Variable	N	SSDS	%	Other	%	sign.
Age	2,867	19.95		19.95		n/s
Race	2,868	759		2,109		Chi-sq=
Black		278	36.4	485	23.0	53.11;
White		481	63.4	1,624	77.0	p < .00
Sex	2,868	759		2,109		Chi-sq=
Male		290	38.2	960	45.5	12.13;
Female		469	61.8	1,149	54.5	p < .00
Residence	2,868	759		2,109		Chi-sq=
Local		589	77.6	1,675	79.4	8.27;
KY		137	18.1	304	14.4	p < .02
Other		33	4.3	130	6.2	
Parents' Ed.	2,527	713		1,814		Chi-sq=
No college		536	75.2	1,120	61.7	40.89;
Attended College		177	24.8	694	38.3	p < .00
Work Status	2,530	706		1,824		Chi-sq=
Not Working		288	40.8	610	33.4	16.77;
Part-Time		377	53.4	1,043	57.2	p < .00
Full-Time		41	5.8	171	9.4	
Financial Aid	2,514	708		1,806		Chi-sq=
No Aid		166	23.4	861	47.7	123.56;
Receiving Aid		542	76.6	945	52.3	p < .00
High School GPA	2,130	2.45		2.38		f=6.97; p < .00
ACT English	2,841	13.18		13.33		n/s
ACT Math	2,840	9.02		9.38		n/s

Variable	N	SSDS	%	Other	%	sign.
ACT Composite	2,842	11.96		12.31		f=9.76; p < .00
Eng. Course	2,868	759		2,109		n/s
ENG 098		51	6.7	120	5.7	
ENG 099		453	59.7	1,278	60.6	
ENG 101+		255	33.6	711	33.7	
Math Course	2,868	759		2,109		n/s
MATH 075		400	52.7	1,036	49.1	
MATH 099		220	29.0	714	33.9	
MATH 102		111	14.6	275	13.0	
MATH 103+		28	3.7	84	4.0	
Read. Course	2,867	759		2,108		Chi-sq=
READ 098		72	9.5	168	8.0	12.67;
READ 099		339	44.7	817	38.8	p < .01
PREP 095		118	15.5	362	17.2	
Exempt		230	30.3	761	36.1	
Registration Status	2,866	759		2,107		Chi-sq=
Full-Time		698	92.0	1,794	85.1	22.86;
Part-Time		61	8.0	313	14.9	p < .00
End of First Semester Status	2,866	759		2,107		Chi-sq=
Dismissed		4	0.5	9	0.4	14.32;
Probation		99	13.0	339	16.1	p < .01
Goodstanding		253	33.3	577	27.4	
Trans.- Prob.		72	9.5	227	10.8	
Trans.- L.L.		331	43.6	947	44.9	
Trans.- GS.		8	0.4	0	0.0	
Transfer Status	2,866	759		2,107		n/s
Probation		192	25.3	573	27.2	
Limited Load		475	62.6	1,313	62.3	
GS		92	12.1	221	10.5	
Remedial hours Earned	2,862	8.48		8.02		f=6.44; p < .01

Variable	N	SSDS	%	Other	%	sign.
Transfer GPA	2,866	2.56		2.55		n/s
N of terms in PD	2,862	1.80		1.80		n/s
Cum. Hours Earned Before Transfer	2,863	18.64		17.83		f=4.21; p < .04
N of Terms enrolled after Transfer	2,850	4.82		4.02		f=23.08; p < .00
Retention	2,850	755		2,095		Chi-sq=
< 1 year		17	2.3	102	4.9	30.07;
Completed 1 year		126	16.7	462	22.1	p < .00
Returned year 2		219	29.0	572	27.3	
Returned year 3		142	18.8	375	17.9	
Returned year 4		81	10.7	234	11.2	
Returned year 5		100	13.2	211	10.1	
Returned year 6		48	6.4	94	4.5	
Returned year 7		18	2.4	30	1.4	
Returned year 8		4	0.5	15	0.7	
Current/Last Status	2,848	755		2,093		Chi-sq=
Dismissed		113	15.0	292	14.0	12.86;
Probation		182	24.1	527	25.2	p < .00
Goodstanding		360	47.7	1,087	51.9	
Graduated		100	13.2	187	8.9	
Current/Final GPA	2,848	2.15		2.15		n/s
Current/Final Hours Earned	2,847	56.05		48.18		f=22.92; p < .00

Appendix D.

Summary Data by Pre- (before Fall 1986) or Post (Fall 1986 through Spring 1990) MAS Status

Variable	N	Pre MAS	%	Post MAS	%	sign.
Age	2,939	20.13		19.69		f=9.20; p < .00
Race	2,935	1,709		1,226		Chi-sq=
Black		456	26.7	307	25.0	19.53;
White		1,223	71.6	882	71.9	p < .00
Other		30	1.7	37	3.1	
Sex	2,939	1,711		1,228		Chi-sq=
Male		803	46.9	485	39.5	16.06;
Female		908	53.1	743	60.5	p < .00
Residence	2,939	1,711		1,228		Chi-sq=
Local		1,377	80.5	947	77.1	7.17;
KY		251	14.7	196	16.0	p < .00
Other		83	4.9	85	6.9	
Parents' Ed.	2,588	1,476		1,112		n/s
No college		944	64.0	749	67.4	
Attended College		532	36.0	363	32.6	
Work Status	2,588	1,450		1,238		Chi-sq=
Not Working		587	40.5	339	29.8	39.31;
Part-Time		731	50.4	713	62.7	p < .00
Full-Time		132	9.1	86	7.6	
Financial Aid	2,574	1,439		1,135		n/s
No Aid		569	39.5	480	42.3	
Receiving Aid		870		655	57.7	
High School GPA	2,180	2.41		2.38		n/s
ACT English	2,911	12.81		13.89		f=59.62; p < .00

Variable	N	Pre MAS	%	Post MAS	%	sign.
ACT Math	2,910	9.12		9.67		f=10.34; p < .00
ACT Composite	2,913	11.92		12.65		f=56.30; p < .00
Eng. Course	2,939	1,711		1,228		Chi-sq=
ENG 098		71	4.1	104	8.5	170.69;
ENG 099		903	52.8	871	70.9	p < .00
ENG 101+		737	43.1	253	20.6	
Math Course	2,939	1,711		1,228		Chi-sq=
MATH 075		968	56.6	487	39.7	133.22;
MATH 099		512	29.9	442	36.0	p < .00
MATH 102		149	8.7	258	21.0	
MATH 103+		82	4.8	41	3.4	
Read. Course	2,938	1,710		1,228		Chi-sq=
READ 098		208	12.2	50	4.1	469.57;
READ 099		748	43.7	439	35.7	p < .00
PREP 095		74	4.3	412	33.6	
Exempt		680	39.8	327	26.6	
Registration Status	2,937	1,710		1,227		Chi-sq=
Full-Time		1,462	85.5	1,095	89.2	8.89;
Part-Time		248	14.5	132	10.8	p < .00
End of First Semester Status	2,937	1,710		1,227		Chi-sq=
Dismissed		11	0.6	2	0.2	49.79;
Probation		291	17.0	156	12.7	p < .00
Goodstanding		550	32.2	309	25.2	
Trans.- Prob.		140	8.2	163	13.3	
Trans.- L.L.		714	41.8	592	48.2	
Trans.- GS.		4	0.2	5	0.4	
Transfer Status	2,937	1,710		1,227		Chi-sq=
Probation		434	25.4	344	28.0	31.94;
Limited Load		1,035	60.5	792	64.5	p < .00
GS		241	14.1	91	7.4	

Variable	N	Pre MAS	%	Post MAS	%	sign.
Remedial hours Earned	2,862	7.74		8.72		f=35.86; p < .00
Transfer GPA	2,937	2.53		2.59		f=10.03; p < .00
N of terms in PD	2,868	2.02		1.50		f=140.29; p < .00
Cum. Hours Earned Before Transfer	2,934	19.25		16.53		f=63.63; p < .00
N of Terms enrolled after Transfer	2,850	5.36		2.64		f=375.14; p < .00
Retention	2,918	1,695		1,223		Chi-sq=
< 1 year		57	3.4	65	5.3	583.13;
Completed 1 year		199	11.7	397	32.5	p < .00
Returned year 2		385	22.7	421	34.4	
Returned year 3		308	18.2	233	19.1	
Returned year 4		218	12.9	107	8.7	
Returned year 5		316	18.6	n/a		
Returned year 6		144	8.5	n/a		
Returned year 7		49	2.9	n/a		
Returned year 8		19	1.1	n/a		
Current/Last Status	2,916	1,694		1,222		Chi-sq=
Dismissed		241	14.2	177	14.5	212.60;
Probation		407	24.0	311	25.5	p < .00
Goodstanding		763	45.0	726	59.4	
Graduated		283	16.7	8	0.7	
Current/Final GPA	2,916	2.16		2.15		n/s
Current/Final Hours Earned	2,915	60.82		36.01		f=322.43; p < .00

Appendix E.

Summary Data by Financial Aid Status

Variable	N	Receiving Aid: No	%	Yes	%	sign.
Age	2,513	19.64		20.09		f=8.29; p < .00
Race	2,514	1,027		1,487		Chi-sq=
Black		85	8.3	611	41.1	326.69;
White		942	91.7	876	58.9	p < .00
Sex	2,514	1,027		1,487		n/s
Male		456	44.4	630	42.4	
Female		571	55.6	857	57.6	
Residence	2,514	1,027		1,487		Chi-sq=
Local		877	85.4	1,097	73.8	61.28;
KY		127	12.4	265	17.8	p < .00
Other		23	2.2	125	8.4	
Parents' Ed.	2,400	964		1,436		Chi-sq=
No college		527	54.7	1,036	72.1	77.57;
Attended College		437	45.3	400	27.9	p < .00
Employment	2,484	1,023		1,461		Chi-sq=
Not Working		241	23.6	642	43.9	137.33;
Part-Time		643	62.9	746	51.1	p < .00
Full-Time		139	13.6	73	5.0	
High School GPA	1,887	2.38		2.42		n/s
ACT English	2,495	13.76		13.00		f=24.31; p < .00
ACT Math	2,494	9.92		8.87		f=31.43; p < .00
ACT Composite	2,496	12.61		11.94		f=39.86; p < .00

Variable	N	Receiving Aid: No	%	Yes	%	sign.
Eng. Course	2,514	1,027		1,487		Chi-sq=
ENG 098		39	3.8	109	7.3	23.25;
ENG 099		615	59.9	934	62.8	p < .00
ENG 101+						
Math Course	2,514	1,027		1,487		Chi-sq=
MATH 075		463	45.1	797	53.6	25.27;
MATH 099		367	35.7	443	29.8	p < .00
MATH 102		162	15.8	189	12.7	
MATH 103+		35	3.4	58	3.9	
Read. Course	2,513	1,026		1,487		Chi-sq=
READ 098		63	6.1	155	10.4	22.18;
READ 099		395	38.5	624	42.0	p < .00
PREP 095		197	19.2	257	17.3	
Exempt		371	36.2	451	30.3	
Registration Status	2,513	1,027		1,486		Chi-sq=
Full-Time		835	81.3	1,371	92.3	67.98;
Part-Time		192	18.7	115	7.7	p < .00
End of First Semester Status	2,513	1,027		1,486		n/s
Dismissed		6	0.6	4	0.3	
Probation		140	13.6	223	15.0	
Goodstanding		295	28.7	425	28.6	
Trans.- Prob.		114	11.1	161	10.8	
Trans.- L.L.		468	45.6	671	45.2	
Trans.- GS.		4	0.4	2	0.1	
Transfer Status	2,513	1,027		1,486		n/s
Probation		253	24.6	414	27.9	
Limited Load		660	64.3	927	62.4	
GS		114	11.1	145	9.8	
Remedial hours Earned	2,511	7.70		8.72		f=34.66; p < .00

Variable	N	Receiving Aid: No	%	Yes	%	sign.
Transfer GPA	2,513	2.56		2.56		n/s
N of terms in PD	2,514	1.75		1.78		n/s
Cum. Hours Earned Before Transfer	2,510	17.03		18.22		f=10.87; p < .00
N of Terms enrolled after Transfer	2,498	4.04		4.17		n/s
Retention	2,498	1,020		1,478		n/s
< 1 year		49	4.8	57	3.9	
Completed 1 year		242	23.7	304	20.6	
Returned year 2		267	26.2	455	30.8	
Returned year 3		181	17.7	249	16.8	
Returned year 4		102	10.0	156	10.6	
Returned year 5		107	10.5	165	11.2	
Returned year 6		46	4.5	66	4.5	
Returned year 7		21	2.1	15	1.0	
Returned year 8		5	0.5	11	0.7	
Current/Last Status	2,497	1,020		1,477		Chi-sq=
Dismissed		114	11.2	256	17.3	19.27;
Probation		251	24.6	368	24.9	p < .00
Goodstanding		552	54.1	717	48.5	
Graduated		103	10.1	137	9.3	
Current/Final GPA	2,497	2.19		2.12		f=8.16; p < .01
Current/Final Hours Earned	2,495	47.81		50.22		n/s

Appendix F.

Summary Data by Employment Status

Variable	N	Working: No	%	Working: Yes	%	sign.
Age	2,529	19.67		20.02		f=4.71; p < .03
Race	2,530	898		1,632		Chi-sq=
Black		394	43.9	293	18.0	196.77;
White		504	56.1	1,339	82.0	p < .00
Sex	2,530	898		1,632		n/s
Male		380	42.3	709	43.4	
Female		518	57.7	923	56.6	
Residence	2,530	898		1,632		Chi-sq=
Local		567	63.1	1,425	87.3	226.87;
KY		216	24.1	175	10.7	p < .00
Other		115	12.8	32	2.0	
Parents' Ed.	2,408	861		1,547		n/s
No college		557	64.7	1,007	65.1	
Attended College		304	35.3	540	34.9	
Financial Aid	2,484	883		1,601		Chi-sq=
No Aid		241	27.3	782	48.8	109.12;
Receiving Aid		642	72.7	819	51.2	p < .00
High School GPA	1,905	2.42		2.40		n/s
ACT English	2,511	12.93		13.53		f=14.93; p < .00
ACT Math	2,510	9.13		9.39		n/s

Variable	N	Working: No	%	Working: Yes	%	sign.
ACT Composite	2,512	11.83		12.43		f=31.18; p < .00
Eng. Course	2,530	898		1,632		Chi-sq=
ENG 098		71	7.9	76	4.7	12.78;
ENG 099		548	61.0	1,006	61.6	p < .01
ENG 101+		279	31.1	550	33.7	
Math Course	2,530	898		1,632		n/s
MATH 075		486	54.1	779	47.7	
MATH 099		271	30.2	548	33.6	
MATH 102		107	11.9	246	15.1	
MATH 103+		34	3.8	59	3.6	
Read. Course	2,529	898		1,631		Chi-sq=
READ 098		117	13.0	97	5.9	74.24;
READ 099		415	46.2	610	37.4	p < .00
PREP 095		127	14.1	331	20.3	
Exempt		238	26.6	593	36.4	
Registration Status	2,529	897		1,632		Chi-sq=
Full-Time		847	94.4	1,372	84.1	57.73;
Part-Time		50	5.6	260	15.9	p < .00
End of First Semester Status	2,529	897		1,632		n/s
Dismissed		2	0.2	8	0.5	
Probation		148	16.5	219	13.4	
Goodstanding		271	30.2	447	27.4	
Trans.- Prob.		86	9.6	191	11.7	
Trans.- L.L.		388	43.3	763	46.8	
Trans.- GS.		2	0.2	4	0.2	
Transfer Status	2,529	897		1,632		n/s
Probation		252	28.1	422	25.9	
Limited Load		545	60.8	1,052	64.5	
GS		100	11.1	158	9.7	
Remedial hours Earned	2,528	9.02		7.83		f=46.30; p < .00

Variable	N	Working: No	%	Working: Yes	%	sign.
Transfer GPA	2,529	2.55		2.57		n/s
N of terms in PD	2,530	1.89		1.69		f=18.18; p < .00
Cum. Hours Earned Before Transfer	2,526	19.22		16.90		f=39.77; p < .00
N of Terms enrolled after Transfer	2,516	4.89		3.72		f=52.24; p < .00
Retention	2,515	894		1,621		Chi-sq=
< 1 year		24	2.7	84	5.2	58.72;
Completed 1 year		143	16.0	404	24.9	p < .00
Returned year 2		239	26.7	479	29.5	
Returned year 3		179	20.0	262	16.2	
Returned year 4		118	13.2	145	8.9	
Returned year 5		117	13.1	155	9.6	
Returned year 6		50	5.6	63	3.9	
Returned year 7		16	1.8	21	1.3	
Returned year 8		8	0.9	8	0.5	
Current/Last Status	2,514	893		1,621		Chi-sq=
Dismissed		161	18.0	210	13.0	24.82;
Probation		203	22.7	421	26.0	p < .00
Goodstanding		423	47.4	859	53.0	
Graduated		106	11.9	131	8.1	
Current/Final GPA	2,514	2.11		2.17		f=5.19; p < .02
Current/Final Hours Earned	2,512	57.28		44.86		f=61.31; p < .00

Appendix G.

Summary Data by Parents' Educational Level

Variable	N	Attended College: No	%	Attended College: Yes	%	sign.
Age	2,526	20.19		19.18		f=40.64; p < .00
Race	2,527	1,656		871		Chi-sq=
Black		495	29.9	193	22.2	17.23;
White		1,161	70.1	678	77.8	p < .00
Sex	2,527	1,656		871		n/s
Male		696	42.0	385	44.2	
Female		960	58.0	486	55.8	
Residence	2,527	1,656		871		n/s
Local		1,298	78.4	684	78.5	
KY		270	16.3	132	15.2	
Other		88	5.3	55	6.3	
Employment	2,408	1,564		844		n/s
Not Working		557	35.6	304	36.0	
Part-Time		866	55.4	484	57.3	
Full-Time		141	9.0	56	6.6	
Financial Aid	2,400	1,563		837		Chi-sq=
No Aid		527	33.7	437	52.2	77.57;
Receiving Aid		1,036	66.3	400	47.8	p < .00
High School GPA	1,908	2.42		2.38		n/s
ACT English	2,510	13.19		13.64		f=8.26; p < .00
ACT Math	2,509	9.19		9.41		n/s

Variable	N	Attended College: No	%	Yes	%	sign.
ACT Composite	2,511	12.11		12.42		f=8.17; p < .00
Eng. Course	2,527	1,656		871		Chi-sq=
ENG 098		112	6.8	38	4.4	8.71;
ENG 099		1,021	61.7	523	60.0	p < .03
ENG 101+		523	31.5	310	35.6	
Math Course	2,527	1,656		871		n/s
MATH 075		858	51.8	420	48.2	
MATH 099		516	31.2	299	34.3	
MATH 102		224	13.5	118	13.5	
MATH 103+		58	3.5	34	4.0	
Read. Course	2,526	1,655		871		n/s
READ 098		143	8.6	64	7.3	
READ 099		673	40.7	361	41.4	
PREP 095		306	18.5	138	15.8	
Exempt		533	32.2	308	35.4	
Registration Status	2,526	1,655		871		n/s
Full-Time		1,466	88.6	765	87.8	
Part-Time		189	11.4	106	12.2	
End of First Semester Status	2,526	1,655		871		n/s
Dismissed		3	0.2	8	0.9	
Probation		238	14.4	119	13.7	
Goodstanding		477	28.8	248	28.5	
Trans.- Prob.		189	11.4	84	9.6	
Trans.- L.L.		746	45.1	409	47.0	
Trans.- GS.		2	0.1	3	0.3	
Transfer Status	2,526	1,655		871		n/s
Probation		445	26.9	224	25.7	
Limited Load		1,052	63.6	549	63.0	
GS		158	9.5	98	11.3	
Remedial hours Earned	2,524	8.43		7.98		f=6.25; p < .01

Variable	N	Attended College: No	%	Attended College: Yes	%	sign.
Transfer GPA	2,526	2.57		2.55		n/s
N of terms in PD	2,527	1.74		1.78		n/s
Cum. Hours Earned Before Transfer	2,524	17.56		18.05		n/s
N of Terms enrolled after Transfer	2,510	4.07		4.39		n/s
Retention	2,510	1,646		864		n/s
< 1 year		77	4.7	32	3.7	
Completed 1 year		363	22.1	178	20.6	
Returned year 2		473	28.7	232	26.9	
Returned year 3		283	17.2	156	18.1	
Returned year 4		167	10.1	97	11.2	
Returned year 5		181	11.0	95	11.0	
Returned year 6		72	4.4	52	6.0	
Returned year 7		23	1.4	13	1.5	
Returned year 8		7	0.4	9	1.0	
Current/Last Status	2,509	1,645		864		n/s
Dismissed		233	14.2	134	15.5	
Probation		411	25.0	208	24.1	
Goodstanding		848	51.6	427	49.4	
Graduated		153	9.3	95	11.0	
Current/Final GPA	2,509	2.16		2.13		n/s
Current/Final Hours Earned	2,507	48.83		51.54		n/s

Appendix H.

PD Transfers and Early Transfers: Comparative Data
(Fall 1985 through Spring 1990)

Variable	N	PD	%	ET	%	sign.
Age	1,898	19.74		19.42		n/s
Race	1,895	1,608		287		Chi-sq=
Black		417	25.9	30	10.5	37.25;
White		1,144	71.1	253	88.2	p < .00
Sex	1,899	1,610		289		n/s
Male		662	41.1	135	46.7	
Female		948	58.9	154	53.3	
Residence	1,898	1,610		288		Chi-sq=
Local		1,242	77.1	255	88.5	19.40;
State		255	15.8	25	8.7	p < .00
Out-of-State		113	7.0	8	2.8	
High School GPA	1,546	2.38		2.16		f=29.12; p < .00
ACT English	1,882	13.66		16.72		f=167.96; p < .00
ACT Math	1,883	9.49		12.09		f=72.88; p < .00
ACT Comp	1,884	12.48		15.23		f=246.50; p < .00
English Placement	1,897	1,610		287		Chi-sq=
ENG 098		131	8.1	0	0.0	613.81;
ENG 099		1,092	67.8	0	0.0	p < .00
ENG 101+		387	24.1	287	100.0	
Math Placement	1,897	1,610		287		Chi-sq=
MATH 075		656	40.7	1	0.3	193.49;
MATH 099		562	34.9	158	55.1	p < .00
MATH 102		327	20.3	104	36.2	
MATH 102+		65	4.1	24	8.3	

Variable	N	PD	%	ET	%	sign.
Reading Placement	1,892	1,604		288		Chi-sq=
READ 098		96	6.0	0	0.0	447.80;
READ 099		628	39.0	0	0.0	p < .00
PREP 095		459	28.5	25	8.7	
Exempt		427	26.5	262	91.3	
Retention	1,892	1,604		288		Chi-sq=
< 1 Year		85	5.3	74	25.7	137.77;
Completed year 1		437	27.2	73	25.3	p < .00
Returned year 2		516	32.2	57	19.8	
Returned year 3		307	19.1	45	15.6	
Returned year 4		168	10.5	21	7.3	
Returned year 5		91	5.7	18	6.3	
Current/Last Academic Status	1,872	1,602		270		Chi-sq=
Dismissed		240	15.0	83	30.7	71.26;
Probation		409	25.5	95	35.2	p < .00
Goodstanding		917	57.2	84	31.1	
Graduated		36	2.2	8	3.0	
Cumulative GPA	1,872	2.15		1.50		f=231.94; p < .00
Cumulative Hours Earned	1,691	40.90		29.01		f=38.59; p < .00
N of Terms Completed	1,892	4.82		3.87		f=22.54; p < .00

Appendix I.

Preparatory Division Graduates: Summary Data

Age:		Mean	= 19.5
		Median	= 18.0
		Minimum	= 17.0
		Maximum	= 41.0
Race:		White	= 221 (75.9%)
		Black	= 66 (22.7%)
		Other	= 4 (1.4%)
Sex:		Female	= 173 (59.5%)
		Male	= 118 (40.5%)
Residence:	Jefferson County		= 226 (77.7%)
	Kentucky		= 45 (15.5%)
	Out of State		= 20 (6.9%)
Parents' Education:		No college	= 155 (61.5%)
		Attended college	= 97 (38.5%)
Employment:		Not working	= 110 (45.6%)
		Working Part-time	= 125 (51.9%)
		Working Full-time	= 6 (2.5%)
Financial Need:		No financial aid	= 105 (43.0%)
		On financial aid	= 139 (57.0%)
High School GPA:		Mean	= 2.57
		Minimum	= 0.73
		Maximum	= 3.74
ACT - English:		Mean	= 13.3
		Minimum	= 4.0
		Maximum	= 24.0
ACT - Mathematics:		Mean	= 9.6
		Minimum	= 1.0
		Maximum	= 23.0
ACT - Composite:		Mean	= 12.3
		Minimum	= 5.0
		Maximum	= 22.0
English Placement:		ENG 098	= 9 (3.1%)
		ENG 099	= 137 (47/1%)
		ENG 101	= 144 (49.5%)
		ENG 102	= 1 (0.3%)

Mathematics Placement:	MATH 075	= 133	(45.7%)
	MATH 099	= 116	(39.9%)
	MATH 102	= 25	(8.6%)
	MATH 107	= 13	(4.5%)
	MATH 108	= 2	(0.7%)
	MATH 190	= 2	(0.7%)
Reading Placement:	READ 098	= 22	(7.6%)
	READ 099	= 132	(45.5%)
	PREP 095	= 7	(2.4%)
	Exempt	= 129	(44.3%)
Admit/Program Status:	Regular	= 163	(56.0%)
	SSDS	= 101	(34.7%)
	Intra-University Transfers	= 27	(9.3%)
Registration Status:	Full-Time	= 276	(94.8%)
	Part-Time	= 15	(5.2%)
Academic Status First PD Semester:	Dismissed	= 2	(0.7%)
	Probation	= 37	(12.7%)
	Good Standing	= 107	(36.8%)
	Transfer- Prob.	= 12	(4.1%)
	Transfer- LL	= 133	(45.7%)
Academic Status Transfer Semester:	Transfer-P	= 42	(14.4%)
	Transfer-LL	= 176	(60.5%)
	Transfer-GS	= 73	(25.1%)
Transfer GPA (Cum):	Mean	= 2.64	
	Minimum	= 1.53	
	Maximum	= 4.00	
Transfer Hours Earned (Cum):	Mean	= 22.0	
	Minimum	= 3.0	
	Maximum	= 56.0	
PD Hours Earned:	Mean	= 6.73	
	Minimum	= 0.00	
	Maximum	= 22.00	
N of Terms in PD:	Mean	= 1.94	
	Minimum	= 1.00	
	Maximum	= 7.00	
N of Terms Enrolled After Transfer:	Mean	= 10.80	
	Minimum	= 1.00	
	Maximum	= 19.00	
	Median	= 11.00	

Graduation Unit:	A&S	= 125	(43.0%)
	Speed	= 16	(5.5%)
	Business	= 49	(16.8%)
	Education	= 41	(14.1%)
	Nursing	= 10	(3.4%)
	CUPA	= 26	(8.9%)
	Allied Health	= 22	(7.6%)
	Other	= 2	(0.7%)

Retention:			
	Returned for Year 3	= 16	(5.5%)
	Returned for Year 4	= 35	(12.0%)
	Returned for Year 5	= 127	(43.6%)
	Returned for Year 6	= 78	(26.6%)
	Returned for Year 7	= 26	(8.9%)
	Returned for Year 8	= 9	(3.1%)

Final GPA (Cum):	Mean	= 2.66
	Minimum	= 2.04
	Maximum	= 3.89

Final Hours Earned (Cum):	Mean	= 128.10
	Minimum	= 58.00
	Maximum	= 186.00

Degree and Major

Associates Degrees

1.	Biology	2
2.	Civil Engineering Tech.	1
3.	Data Processing Tech.	2
4.	Dental Hygiene	3
5.	Electrical Engineering Tech.	5
6.	Humanities	1
7.	Industrial Relations	2
8.	Mathematics	1
9.	Mechanical Engineering Tech.	3
10.	Medical Technology	1
11.	Office Administration	4
12.	Pan African Studies	1
13.	Paralegal Studies	13
14.	Police Administration	5
15.	Radiologic Technology	19
16.	Social Sciences	1
17.	Sociology	2
18.	Theatre Arts	1
	Total	67

Bachelor's Degrees

1.	Accountancy	5
2.	Art	11
3.	Art History	1
4.	Biology	3
5.	Chemistry	1
6.	Communications	35
7.	Computer Engineering	1
8.	Corrections	8
9.	Cytotechnology	1
10.	Data Processing	1
11.	Economics	1
12.	Electrical Engineering	3
13.	Elementary Education	25
14.	English	4
15.	Finance	14
16.	French	1
17.	Geography	6
18.	German	1
19.	Guidance and Counseling	7
20.	History	3
21.	Interior Design	3
22.	Liberal Studies	2
23.	Management	15
24.	Marketing	12
25.	Mechanical Engineering	1
26.	Medical Technology	1
27.	Nursing	10
28.	Pan African Studies	1
29.	Physical Education	7
30.	Police Administration	21
31.	Political Science	12
32.	Psychology	4
33.	Recreation Education	4
34.	Social Work	5
35.	Sociology	10
36.	Urban Studies	1
	Total	241

Master's Degrees

1.	Social Work	1
	Total	1

Total	Associate's	67
	Bachelor's	241
	Master's	1
Grand Total		309